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CERTIFICATE OF AUTHORSHIP

I, Michelle Ann Smith-Tamaray, hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person nor material which to a substantial extent has been accepted for the award of any other degree or diploma at Charles Sturt University or any other educational institution, except where due acknowledgement is made in the thesis. Any contribution made to the research by colleagues with whom I have worked at Charles Sturt University or elsewhere during my candidature is fully acknowledged.

I agree that the thesis be accessible for the purpose of study and research in accordance with the normal conditions established by the University Librarian for the care, loan and reproduction of the thesis.*

Signature  

Date: 12th March, 2010

* Subject to confidentiality provisions as approved by the University.
ETHICAL APPROVAL

Ethical approval for all three phases of this research program was granted through the Charles Sturt Human Ethics Committee. Protocol numbers 2003/184 (Phase One); 2003/197 (Phase Two) and 2007/002 (Phase Three).
I dedicate this to my Nana and all the individuals living in non-metropolitan areas who have suffered from stroke – because regardless of where you live, everyone deserves to have access to the best care available.
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Presentations and Publications Arising from This Thesis

Conference Presentations


Journal Articles in Progress

Not all services are created equal: Development of a classification system to describe speech pathology resourcing for adults in non-metropolitan New South Wales and Victoria.

Geographical availability and frequency of speech pathology services for adults in non-metropolitan areas of New South Wales and Victoria: Are they equitable?

Issues underlying the provision of dysphagia services in non-metropolitan areas of New South Wales and Victoria: The importance of context.

What happens when speech pathology can’t be there? Dysphagia services in the absence of a speech pathologist in non-metropolitan areas.

“Its not me, its them”: The provision of dysphagia assessment services within the non-metropolitan context.

Restrictions in the access of videofluoroscopy in non-metropolitan areas of New South Wales and Victoria.

The impact of reduced access to videofluoroscopy on clinical practice in non-metropolitan areas of New South Wales and Victoria.

Someone misses out: The ethics of resource allocation in the provision of dysphagia services in non-metropolitan areas.

“You’ve got to have an impact”: Influencing the culture of acute medical services in non-metropolitan areas.
ABSTRACT

Assessment of dysphagia forms a significant proportion of the speech pathologist’s adult caseload. The important role of the speech pathologist in the management of patients post-stroke has been acknowledged in the literature and in national stroke clinical guidelines. Recommendations of what constitutes best practice in this area have been documented, but minimal investigation of actual clinical practice has been reported.

Knowledge of non-metropolitan speech pathology services and clinical practice for adults with dysphagia following acute stroke is very limited. The equity objective, with its central goal of health for all, compels health providers to strive for accessible and quality health care for all Australians. However, a study focusing on paediatric speech pathology services has highlighted inequity issues in rural New South Wales (Wilson, Lincoln & Onslow, 2002), but to date little data exist on service provision to adult patients. Given the challenges faced generally in the delivery of health care in non-metropolitan areas, it is imperative that speech pathology provision of dysphagia assessment be examined in light of current evidence and the equity objective. The research presented in this thesis provides initial insight into this area.

This research was undertaken in three phases using a pragmatic approach. A mixed method design was used, allowing collection of a broad range of data from clinicians across two states as well as more detailed examples of how these data related to aspects of clinical practice. The first phase of the study consisted of telephone interviews with a representative from each service providing acute adult speech pathology services in New South Wales and Victoria. From the data, patterns were identified that allowed development of a classification system to describe the location and range of services available across the two states. The second phase consisted of semi-structured interviews with eight clinicians from the full range of these service types, which allowed further exploration of issues identified from Phase One. The third phase of the research was undertaken in the form of two small focus groups, allowing verification of the data.

This thesis is the first study to examine the provision of dysphagia assessment following acute stroke in non-metropolitan New South Wales and Victoria. It provides data indicating that not all speech pathology services are created equal.
Context was found to play a significant role in the manner in which speech pathology services were provided to patients with dysphagia following acute stroke. This suggested that some patients may be receiving a less than optimal service, based on resourcing rather than current best practice. This finding has implications for the equity of the availability, quality of service and outcomes for such patients based on their geographical location. The findings presented in this thesis have potential application not only to the local context in which the data were collected, but also in considering the provision of dysphagia services to geographically and resource-dispersed populations on both a national and international level.
PART ONE
INTRODUCTION

Part One contains an introduction to the background and literature underpinning this thesis. Chapter 1 describes the background to this study and the rationale underpinning the selection of topic. Chapter 2 presents a literature review related to the assessment of dysphagia following acute stroke. It defines current best practice in this area both nationally and internationally according to the evidence available. Chapter 3 then focuses on literature related to the non-metropolitan context in which this study is set, and discusses health care in relation to the equity objective. Chapters 2 and 3 are then discussed with reference to the study objectives.
CHAPTER 1
AN INTRODUCTION TO THIS STUDY

This thesis presents the findings of research that explored the provision of dysphagia assessment following acute stroke in non-metropolitan New South Wales (NSW) and Victoria, Australia. This introduction explains the background to the study in relation to the researcher’s interest in this area. It provides an overview of the rationale for undertaking this research, and a brief overview of the context of acute stroke management generally. The scope of the research, the over-arching research question and a brief overview of the presentation of this thesis are also provided.

1.1 BACKGROUND TO THIS STUDY FROM THE RESEARCHER’S PERSPECTIVE

Since graduating from university I have worked in non-metropolitan North-East Victoria, Australia. After undertaking all of my undergraduate placements in large metropolitan hospitals, I quickly realised that non-metropolitan service delivery posed many challenges not necessarily encountered by my metropolitan counterparts. Although the patients presented with similar issues and needs, the manner in which these could be met varied between my base site and outreach sites. This appeared to be potentially a result of variations in service resources and my personal clinical inexperience at the time.

As my experience grew and my contact with other non-metropolitan-based clinicians increased, I began to feel that these variations in care might not be limited to my service alone, and might be due to broader inequities in service provision. Simultaneous to discussions with other clinicians, I had contact with patients and their families who had experienced admission to small, non-metropolitan hospitals following an acute stroke. These patients had not received speech pathology services until their transfer to larger facilities for rehabilitation. This was often many weeks after the initial event, and in one case, after suspected aspiration pneumonia. In mid-2006, I also had the personal experience of my grandmother passing away due to pulmonary complications following a stroke. No allied health assessment or management was sought by the facility she was admitted to, and no dysphagia screening or assessment
was undertaken. These experiences prompted me to consider the process of speech pathology assessment for dysphagia following stroke in other non-metropolitan hospitals, and equity of service provision.

Since I commenced this study mid-2002, stroke projects have been developed at state level in New South Wales and Victoria. There has also been significant work at a national level with the development of the *National Stroke Guidelines* (2007), including specific reference to the issue of dysphagia assessment. Although this work has commenced, there is acknowledgement that gaps may exist in implementing the evidence at a functional clinical level (Senes, 2006). An exploration of these gaps and why they may be occurring was the focus of this research.

### 1.2 PURPOSE AND SCOPE OF THIS STUDY

The purpose of this study was broad, as little had been documented in the literature regarding practice in this area. I wanted to explore the provision of dysphagia assessment in non-metropolitan NSW and Victoria, and to discover what factors clinicians faced in undertaking this clinical work. To do this, it was necessary to first gather information about clinicians’ working environments and general resourcing at a site level and across the two states (Phase One). A more detailed view was then sought as to the process of providing dysphagia assessment and factors that clinicians perceived as integral to this process (Phase Two). These issues were then discussed in a focus group format (Phase Three). Each phase of this mixed-method study was used to gain a different perspective on the provision of dysphagia assessment and the issues underlying it. A detailed presentation of the research questions and how they were addressed is presented in Chapter 4.

This study was exploratory in nature. Because of this, the over-arching research question was broad. It was intended that the study would provide a snapshot of provision of dysphagia assessment following acute stroke. I was aware that the dynamic nature of health services might result in changes in resourcing or process over the time of this study. I was also aware of the fact that the data provided represented the opinion of individual clinicians from particular services at a particular time. Therefore, the information was what the clinicians were aware of and could provide, and was their interpretation of process within their service, and might not reflect the views of other
professionals within that service. Despite these limitations, this research provides unique insight into clinicians' perceptions of the provision of services to the acute population in the non-metropolitan setting, and the issues they face in their clinical practice.

1.3 AN OVERVIEW OF THE THESIS

This thesis is presented in six parts, divided into chapters. These parts reflect the major sections of the thesis.

Part One provides an overview and background to the thesis, including literature review of the areas to be explored. Chapter 2 presents literature pertaining to general stroke statistics, the frequency of dysphagia in the stroke population and the consequences of dysphagia following stroke. It highlights dysphagia as a significant medical concern. An overview of stroke care in Australia is provided and related to the speech pathologist’s role within the multidisciplinary team. Information regarding provision of service and assessment to this population is provided. This chapter aims to provide the reader with a current context and evidence for what is considered best practice in the provision of dysphagia assessment following acute stroke.

Chapter 3 considers the Australian non-metropolitan context in relation to the equity objective. Research related to factors affecting non-metropolitan health service delivery is discussed. Gaps in the knowledge base related to speech pathology services in these areas are highlighted. This information is then compared with current best practice in the provision of dysphagia assessment as presented in Chapter 2. It is argued that potential inequities may exist in the provision of dysphagia assessment following acute stroke based on geographical and resourcing factors.

Part Two presents the methodological approach of this study to investigate the provision of dysphagia assessment following acute stroke in non-metropolitan areas of NSW and Victoria. Chapter 4 presents the rationale provided for a three phase, mixed-method study underpinned by a pragmatic approach. The over-arching research question and related sub-questions are presented. This chapter aims to provide the reader with a clear understanding of how and why data were collected. Chapter 5 then details the techniques used in the analysis of the data.
The first phase results are presented in Part Three, which covers several broad areas. Demographic information related to the availability and service characteristics of speech pathology services for adult patients is reported. Arising from this data, a classification system for describing the range of services provided to adult patients in non-metropolitan NSW and Victoria is presented in Chapter 6. This is discussed in relation to how clinicians were able to provide dysphagia services (Chapter 7). Results related to the use of various non-instrumental and instrumental assessment tools are presented and discussed, and restrictions in accessing tools are explored in Chapter 8. Data related to what occurs in the absence of speech pathology services are also presented and discussed. The results from this phase are then considered in Chapter 9 in relation to two hypothetical case studies based on information provided by the clinicians and evidence from the literature.

Part Four presents the findings of Phases Two (interviews) and Three (focus groups) of the research, which explore the issues highlighted in Part Three in greater depth. Part Four consists of three main subsections: an overview of working in the acute non-metropolitan environment (Chapter 10); provision of dysphagia assessment in the presence of a speech pathologist (Chapter 11); and provision of dysphagia assessment in the absence of a speech pathologist (Chapter 12). These results are discussed throughout in relation to literature in each area.

Part Five then presents the two main themes arising from this research: how clinicians make an impact and work within the acute medical context in non-metropolitan areas (Chapter 13), and who or what misses out in the provision of these services (Chapter 14). Both of the themes are central to understanding the manner in which speech pathologists in this study worked within their contexts and provided services to patients with dysphagia following acute stroke.

A summary of the main findings and the implications of these findings to speech pathology clinical practice are discussed in Part Six (Chapter 15). This research makes a unique contribution to knowledge of the provision of dysphagia services in non-metropolitan NSW and Victoria, and has relevance to national and international practice. Limitations of the study and suggestions for future work in this area are also proposed in the final chapter.
CHAPTER 2
ASSESSMENT OF DYSPHAGIA FOLLOWING STROKE

There has been a movement towards evidence-based practice in health care over the past decade. As a profession, speech pathology has also been part of this process (Riley, Oates & Douglas, 2004; Speech Pathology Australia, 2003). In light of the ageing population and the increased stress on the public health system, it has become imperative to justify the assessments and treatments clinicians provide. Service management expects the most cost effective assessment and treatment options to be utilised, and requires evidence to support this clinical practice (National Health and Medical Research Council (NHMRC), 1999). For speech pathology as a relatively recent addition to the acute medical team, this poses some challenges. The evidence base for dysphagia practice is limited, but the area is recognised and practiced clinically (Villa et al., 2001). This means that conducting ethically appropriate trials can be difficult. Despite challenges faced in developing the evidence base for assessments and treatments currently undertaken, the literature in the area of dysphagia does advocate for what is currently considered best practice. This is particularly evident when considering the field of dysphagia following stroke.

Over the past decade there have been significant advances both within Australia and internationally in the manner in which stroke patients are managed within the acute setting. It is now recognised that coordinated services are an integral part of acute stroke care (AIHW, 2006; National Stroke Foundation, 2007). Stroke clinical guidelines cover a range of issues related to assessment and management of stroke in the acute phase, along with key indicators for each component of care according to current best practice. The inclusion of dysphagia assessment and management following stroke in these guidelines is supported by the literature and is discussed throughout this chapter.

The purpose of this chapter is to present the available evidence and current best practice for the assessment of dysphagia following acute stroke. This chapter provides an overview of stroke and stroke care practices generally. It then relates the evidence available regarding dysphagia incidence, recovery patterns and consequences to the manner in which dysphagia following acute stroke is assessed. Tools utilised in the
assessment of dysphagia and their strengths and weaknesses are presented and discussed. Consideration is also given to the personnel involved in the assessment process and the role of the speech pathologist in the acute medical setting.

2.1 STROKE AND DYSPHAGIA

2.1.1 Defining Stroke

“Stroke” or cerebrovascular accident (CVA) refers to a sudden attack to the brain as a result of cerebrovascular disease. These terms cover a number of types of attack, such as ischaemic stroke, haemorrhagic stroke and transient ischaemic attack (AIHW, 2001).

Stroke has been identified as one of Australia’s “greatest killers” (AIHW, 2001). In 2003 it claimed 9006 lives, and was also noted to be the main precursor of long-term disability in the adult population (AIHW, 2006). Approximately 53,000 Australians have a stroke each year (National Stroke Foundation, 2007). It is well recognised that the incidence of stroke is higher in older age groups, with approximately 50% of strokes occurring in individuals aged over 75 years (AIHW, 2001). As the population ages, the number of people having strokes is likely to increase (National Stroke Foundation, 2007). It is evident that these data have potential implications for the distribution of finite health resources, including speech pathology services in non-metropolitan areas.

2.1.2 Defining Dysphagia

Dysphagia is the medical term for disorders of swallowing. Dysphagia is not a disease in itself, but rather a symptom of underlying physical or physiological causes (Crary & Groher, 2003; Logemann, 1998). The definition of dysphagia is contentious. Ambiguities in definition have implications for the interpretation of incidence and prevalence data and reported recovery rates. For example, research that defines dysphagia as occurring with liquids only may underestimate the actual incidence when compared with studies that define dysphagia as occurring with solids and fluids. Inconsistent definition also poses problems in terms of defining outcomes. However, in the speech pathology literature there is general agreement that in defining dysphagia
both solids and fluids are considered, and the focus for speech pathology assessment and management is on the oral and pharyngeal phases of the swallow (e.g. Crary & Groher, 2003; Logemann, 1998; Perlman, 1996).

2.1.3 Dysphagia Following Stroke

Differences in the swallowing function of patients following stroke are well recognised (Perlman, 1996). Some of the most common differences seen in patients’ swallowing following a stroke include delayed initiation of the swallow reflex and pharyngeal motor dysfunction (Daniels et al., 1998; Robbins, Levine, Maser, Rosenbek & Kempster, 1993; Sellers, Dunnet & Carter, 1998; Smith, Logemann, Colangelo, Rademaker & Pauloski, 1999; Veis & Logemann, 1985). These differences can vary in type and severity according to the size and location of the lesion, although direct correlation between dysfunction and lesion site remains ambiguous (Daniels & Foundas, 1999; Daniels, Brailey & Foundas, 1999; Robbins et al., 1993; Veis & Logemann, 1985).

The occurrence of dysphagia specifically as a consequence of stroke is well recognised in the literature (Smithard et al., 1997). Although recent work has investigated the acute phase following stroke, much of the research is weighted towards information on chronic dysphagia (Daniels et al., 1998). As demonstrated in Table 2.1, incidence data for dysphagia in the first week post-stroke vary significantly.

Variations in the prevalence rates could be attributed to the dysphagia definition used, the type and number of stroke patients assessed, the time delay between stroke onset and assessment, and the type of assessment used (Mann, Hankey & Cameron, 2000; Martino et al., 2005). In a systematic review of the literature, Martino et al. (2005) found the incidence of dysphagia to vary according to the method used to assess, with screening techniques reporting the lowest incidence, and instrumental assessment resulting in the highest incidence rates. It should also be noted that selection criteria might affect the rates reported in studies of stroke patients early in their admission. Some studies excluded patients who had decreased alertness or were unable to undergo videofluoroscopy at such an early stage in their illness.
Table 2.1

Examples of incidence data for dysphagia following acute stroke

<table>
<thead>
<tr>
<th>Author(s)</th>
<th>n</th>
<th>Assessment timeframe</th>
<th>Assessment utilised</th>
<th>% patients with dysphagia or aspiration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gordon et al., 1987</td>
<td>91</td>
<td>Within 13 days of admission</td>
<td>Screener</td>
<td>45%</td>
</tr>
<tr>
<td>Barer, 1989</td>
<td>357</td>
<td>Within 48 hours of symptom onset</td>
<td>Screener</td>
<td>29%</td>
</tr>
<tr>
<td>Kidd et al., 1993</td>
<td>60</td>
<td>Within 72 hours</td>
<td>Videofluoroscopy</td>
<td>Aspiration: 42%</td>
</tr>
<tr>
<td>Odderson et al., 1995</td>
<td>124</td>
<td>Within 24 hours</td>
<td>Screener</td>
<td>39%</td>
</tr>
<tr>
<td>Smithard et al., 1997</td>
<td>121</td>
<td>Within 50 hours</td>
<td>Clinical</td>
<td>51%</td>
</tr>
<tr>
<td>Daniels et al., 1998</td>
<td>55</td>
<td>Within 5 days of admission</td>
<td>Clinical and videofluoroscopy</td>
<td>Dysphagia: 65%; aspiration: 38%</td>
</tr>
<tr>
<td>Mann et al., 2000</td>
<td>128</td>
<td>Clinical within 3 days, instrumental within 10 days</td>
<td>Compared CBE with VF</td>
<td>Clinical dysphagia: 51%; Instrumental dysphagia: 64%</td>
</tr>
<tr>
<td>Broadley, 2005</td>
<td>104</td>
<td>On admission (time not specified)</td>
<td>Clinical</td>
<td>53%</td>
</tr>
</tbody>
</table>

2.1.3.1 Patterns of Recovery in Dysphagia Following Stroke

In addition to the high occurrence of dysphagia following stroke, patterns of recovery have also been documented. Patterns of recovery are important to consider when determining appropriate assessment and management options for a disorder.

It has been reported for the majority of patients that spontaneous improvement of dysphagia can be expected within the first few weeks following stroke (Buchholz, 1994; Smithard et al., 1997). Finestone, Woodbury, Foley, Teasell and Greene-Finestone (2002) found that 53% of stroke patients (n = 91) showed signs of dysphagia on admission. After 3 weeks, 27% of these had resolved, and by 90 days after the stroke, 75% of the patients who were dysphagic at initial assessment were consuming regular foods and fluids. Smithard et al. (1997) also found (n = 121) that the majority of
patients initially assessed with dysphagia had resolved within the first week following their stroke. They also noted that a smaller number had persistent dysphagia 6 months later. A small group of patients with ongoing dysphagia was also reported by Teasell, Bach and McRae (1994), who observed that for a portion of patients recovery was longer, and could take over 2 months.

These studies are not isolated examples, and the high rate of spontaneous recovery in the acute phase may lead individuals unfamiliar with the field to question the need for intervention at this point in patients care. However, the complications of dysphagia if not managed appropriately can be serious.

2.1.3.2 Consequences of Dysphagia Following Stroke

Much has been written about the possible consequences of dysphagia following stroke. Dysphagia has been associated with a range of debilitating outcomes, including aspiration, aspiration pneumonia, poor nutrition and hydration, prolonged length of stay, poor rehabilitation outcomes and psychosocial dysfunction. Examples of studies which have reported consequences of dysphagia following stroke are listed in Table 2.2.

Table 2.2
Potential consequences of dysphagia following stroke

<table>
<thead>
<tr>
<th>Potential consequence</th>
<th>Examples of supporting evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aspiration</td>
<td>Daniels et al., 1998; Holas, DePippo &amp; Reding, 1994; Horner &amp; Massey, 1988; Kidd, Lawson, Nesbitt &amp; MacMahon, 1993; Martino et al., 2005</td>
</tr>
<tr>
<td>Higher risk of developing aspiration pneumonia or chest infection</td>
<td>Holas et al., 1994; Martin et al., 1994; Martino et al., 2005; Smithard et al., 1996</td>
</tr>
<tr>
<td>Malnutrition and dehydration</td>
<td>Covinsky et al., 1999; Gordon, Langton Hewer &amp; Wade, 1987</td>
</tr>
<tr>
<td>Increased length of stay &amp; costs</td>
<td>Smithard et al., 1996</td>
</tr>
<tr>
<td>Poorer outcomes, nursing home admission</td>
<td>Covinsky et al., 1999</td>
</tr>
</tbody>
</table>
The most frequently mentioned of the consequences listed in Table 2.2 is aspiration. Aspiration is defined as entry of food/fluids below the level of the vocal folds, and silent aspiration is that which occurs with no overt signs (such as coughing). Silent aspiration is not detectable at bedside, and requires the use of instrumental assessment such as videofluoroscopy (Ramsey, Smithard & Kalra, 2005; Teasell, Foley, Martino, Bhogal & Speechley, 2007). It is well documented that aspiration can occur in patients with dysphagia following stroke. However, reported rates of occurrence vary. A systematic review found that aspiration was observed in 22% to 52% of patients following stroke who were assessed using instrumental assessment (Martino et al., 2005).

Aspiration frequently mentioned in the literature due to the serious medical complications associated with it, such as the development of aspiration pneumonia and death. Aspiration pneumonia is a chest infection that is caused by aspiration of foreign matter, bacteria or gastric juices into the lower respiratory tract (Martin et al., 1994).

The development of chest infection following stroke is common (Martino et al., 2005). However, the direct link between dysphagia and the development of aspiration pneumonia is still debated in the literature. Holas et al. (1994) found that the risk of developing pneumonia was 6.95 times greater in patients who aspirated than those who did not. In a study of 121 consecutive acute stroke patients, Smithard et al. (1996) found that the presence of dysphagia was independently linked to developing a chest infection, regardless of whether the patient was seen on videofluoroscopy to be aspirating. This study also found that patients who had an abnormal swallow on bedside assessment had higher risk of poor nutritional state, a greater risk of death, disability, increased hospital stay and institutional care. Similarly, Reynolds et al. (1998) found that pneumonia occurred in 20.6% of dysphagic patients assessed, and was more frequent in patients who aspirated on videofluoroscopy. They also noted that patients with pneumonia had an increased length of stay, higher mortality and higher overall costs.

It has been argued that aspiration alone does not necessarily predict pneumonia. Langmore et al. (1998) found that the most significant predictors in an aged care population for the development of aspiration pneumonia were dependence for feeding and oral care, number of decayed teeth, tube feeding, more than one medical diagnosis, number of medications, and smoking. Therefore, although dysphagia is considered to be a risk for the development of aspiration pneumonia, it is not necessarily sufficient to cause it in isolation from other factors. This does not invalidate the need to assess
dysphagia. Rather, it supports prompt investigation of dysphagia and the client’s overall status as a functional whole, and management based on similar principles (Langmore et al., 1998).

Malnutrition and dehydration are also recognised as serious consequences of dysphagia (Gordon et al., 1987). Poorly nourished patients perform at a lower level and have overall worse outcomes than patients whose nutrition is well maintained (Covinsky et al., 1999).

A less reported but no less significant consequence of dysphagia is the psychosocial impact. A study of 360 patients with dysphagia reported that only 45% found eating enjoyable, despite 84% responding that eating should be an enjoyable experience. Furthermore, 41% of this sample stated that mealtimes were accompanied by feelings of anxiety (Ekberg et al., 2002). These findings were similar to those found in a qualitative study of 13 patients with dysphagia, who reported depression, fear, trust, control and embarrassment to be more important than dysphagia-related medical issues (Martino & Diamant, 2003).

It can be seen then that the literature reports the presence of dysphagia to be associated with some potentially significant medical and psychosocial outcomes. These findings have implications not only for the maintenance of medical and nutritional status but also for an individual’s quality of life (McHorney & Rosenbek, 1998), therefore supporting the need for appropriate routine management of dysphagia following acute stroke.

### 2.1.4 Best Practice in Stroke and Dysphagia: The Multidisciplinary Team

Stroke unit care and a multidisciplinary team approach are acknowledged in the literature as best practice (AIHW, 2006; Indredavik, 2009; National Stroke Foundation, 2007; Victorian Government Department of Human Services, 2007). A multidisciplinary stroke team is acknowledged to be central to the overall provision of stroke services (Stroke Unit Trialists’ Collaboration, 2007), and includes “a stroke physician, nursing staff, occupational therapist, physiotherapist, speech pathologist, dietitian, social worker and, where possible, a psychologist” (AIHW, 2006, p. 8). The inclusion of a speech pathologist in the team approach to stroke care is also supported in the Australian stroke clinical guidelines as best practice (National Stroke Foundation, 2007).
Although the speech pathologist is most often recognised as the primary clinician for dysphagic patients (Logemann, 1998; Robbins, Kay & McCallum, 2007), the literature places great emphasis on multidisciplinary team management (e.g. Carter Young & Durrant-Jones, 1990; Groher, 1994; Herbert, 1996; Jones & Altschuler, 1987; Leonard & Kendall, 1997; Logemann, 2000a; Martens, Cameron & Simonsen, 1990; Robbins et al., 2007; Speech Pathology Australia, 2004). This importance placed on team management is due to dysphagia being a complex symptom to both assess and manage (Carter Young & Durrant-Jones, 1990; Groher, 1994; Leonard & Kendall, 1997; Logemann, 1998).

The notion of team management is strongly supported by Speech Pathology Australia, which advocates for multidimensional dysphagia management (Speech Pathology Australia, 2004). In addition to having the roles of clinician and team manager, it is recognised that the speech pathologist may be involved as a consultant, an educator or a researcher. The type of role undertaken varies according to setting and client needs (Speech Pathology Australia, 2004).

The role of speech pathologist as the primary dysphagia clinician is a relatively recent one. The unique skill set of speech pathologists has enabled the profession to take on dysphagia as part of practice. Speech pathology involvement in the area of dysphagia arose from work with children with cerebral palsy in the 1930s (Erlichman, 1989; Miller & Groher, 1993). Over the past 30 years, speech pathologists have increasingly taken on the role of dysphagia assessment and management, facilitated through movement into the hospital setting (Miller & Groher, 1993). The speech pathology profession has taken a leading role in research and education in this area (Miller & Groher, 1993). Prior to this time, research in dysphagia was the domain of occupational therapists and nursing (Miller, 1994). Although there is little mention in the Australian literature, it has been noted in overseas studies that nursing, occupational therapy and physiotherapy staff are still sometimes designated as the “primary swallowing clinician” (Kohler, 1991; Logemann, 1998). This appears to be result either of differences in training or of institution-based decisions related to clinical need. Within Australia, dysphagia is a core part of the speech pathology university curriculum and forms part of the competency standards required at graduation (Speech Pathology Australia, 2001).
Randomised controlled studies have shown improved outcomes following stroke when managed within a stroke unit compared to a general medical ward (Kalra et al., 2000; Stroke Unit Trialists’ Collaboration, 2007). However, the specific contributors to these improved outcomes have not been categorically defined. Evans et al. (2001) found that improved outcomes, including measures to reduce aspiration and improve nutrition, were observed more frequently in stroke units than on general wards. They attributed this to management differences, including more frequent monitoring. In a multicentre comparison of processes of care between stroke units and conventional care, Cadilhac et al. (2004) also observed several practices in stroke unit care that might have contributed to positive outcomes, including early assessment and management of aspiration and nutrition risk. In a survey of Australian hospitals undertaken in 2004 it was reported that 23% (61 sites) had either a stroke unit or dedicated stroke team, a frequency which was lower than that of other developed countries (Cadilhac, Lalor, Levei & Donnan, 2006). These units were also more common in metropolitan areas. A report of stroke care in OECD countries undertaken in 2003 noted that the percentage of stroke patients receiving stroke unit care varied markedly, from 15% in Hungary to over 70% in Sweden (Moon, Moise & Jacobzone, 2003).

Read and Levy (2005) reported differences in stroke care practices between regional and metropolitan hospitals. One of these differences was swallowing assessment and speech pathology involvement, which was noted to be significantly reduced in the regional sites surveyed. Hypothesised explanations for this included different staffing and expertise levels, and a lack of the established clinical pathways which have been shown to contribute to improved stroke outcomes.

In the literature there is often an assumption that speech pathologists will be readily available within the hospital setting (e.g. Carter Young & Durant-Jones, 1990; Jones & Altschuler, 1987). For example, O’Loughlin and Shanley (1997) commented in an Australian article on the assessment and management of swallowing problems that “there is relatively easy access to allied health staff such as speech pathologists” within the hospital setting (p. 21). Indeed, there is often an underlying assumption throughout both the local and the international literature related to stroke and dysphagia that the presence of a multidisciplinary team is standard. Although it may be considered best practice, it is unclear whether such a team exists in all medical services that provide care to patients with dysphagia following stroke, especially those in non-metropolitan areas.
2.1.5 Timeliness and Universal Assessment of Dysphagia Following Stroke

Despite the documented recovery patterns reported in Section 2.1.3.1, there is limited evidence regarding specifically recommended times for assessment of dysphagia consequent to acute stroke. However, there is general consensus that early assessment and management are imperative if adverse outcomes are to be minimised. Daniels et al. (1998) reported that there was a higher risk of aspiration in the first days following stroke. They advocated that a “complete and accurate” assessment should be undertaken “within the first days of admission” if risks were to be minimised (p. 17). Similar recommendations have been made by numerous authors (Buchholz, 1994; Johnson, 1997; Kedlaya & Brandstater, 2002; Leder & Espinosa, 2002; Lim et al., 2001; Martin-Harris, 1999), who all noted the benefits of early assessment and management by a clinician trained in dysphagia assessment and management.

Although there is widespread support for early assessment, the exact time-frame reported for undertaking this assessment can be vague. Terms such as “as soon as possible” (e.g. Kedlaya & Brandstater, 2002); “within a week” (e.g. Johnson, 1997); and “early in admission” (e.g. Martin-Harris, 1999) have been used to describe when an assessment should be undertaken. In light of this ambiguity surrounding timeframes, Leder and Espinosa (2002) noted that further research was required to determine whether within 24, 48, 72 or 96 hours post-stroke was the optimal time for assessment.

Based on the information currently available, the Australian stroke clinical guidelines have established an expectation of dysphagia assessment within 24 hours of admission and prior to administration of oral medications or intake (National Stroke Foundation, 2007). Some examples from other stroke guidelines are presented in Table 2.3.

It is evident from the examples of guidelines provided in Table 2.3 that experts in the field strongly advocate universal assessment of dysphagia as soon as medically appropriate following acute stroke. Although all the above recommendations are reasonable, and indeed, important in light of our knowledge regarding dysphagia prognosis and recovery post-stroke, they do raise some issues regarding non-metropolitan practice. Evidence related to stroke recovery and potential complications strongly supports prompt assessment, but do we know if it takes place in rural and remote areas? And if so, how do clinicians undertake it? No literature was available
regarding the assessment of dysphagia following acute stroke in non-metropolitan areas, highlighting the need to explore these issues surrounding the timeliness and universality of assessment.

Table 2.3
Examples of international stroke guidelines for management of dysphagia

<table>
<thead>
<tr>
<th>Country/guideline</th>
<th>Timeframe for assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Clinical guidelines for acute stroke management: National Stroke Foundation</strong></td>
<td>Patients should be screened within 24 hours of admission.</td>
</tr>
<tr>
<td><strong>Australia (2007)</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Canadian Best Practice: Recommendations for Stroke Care: Summary (2008)</strong></td>
<td>Patients should be screened as part of their initial assessment, and before initiating oral intake of medications, fluids or food.</td>
</tr>
<tr>
<td><strong>Stroke Disease Specific Care Performance Measures: Joint Commission, United States of America (2006)</strong></td>
<td>Patients should be screened for dysphagia before being given food, fluids or medications by mouth.</td>
</tr>
<tr>
<td><strong>New Zealand guideline for management of stroke: Best practice evidence-based guideline (2003)</strong></td>
<td>Swallowing and communication assessment to be undertaken in first 48 hours, preferably on admission.</td>
</tr>
<tr>
<td><strong>Scottish Intercollegiate Guidelines Network – Management of patients with stroke: Identification and management of dysphagia. A national clinical guideline (2004)</strong></td>
<td>All stroke patients should be screened before being given food or drink.</td>
</tr>
</tbody>
</table>

2.1.6 Do Dysphagia Programs Work?

To justify the use of dysphagia assessment and management for patients following stroke, consideration of the impact of assessment and management on decreasing adverse outcomes needs to be discussed. It should be noted that many of the studies in this area are limited by their methodology and sample size, which makes judgement of efficacy difficult (Doggett et al., 2001). However, some positive trends can be noted.

Odderson, Keaton and McKenna (1995) investigated the effects of setting up a dysphagia program on the outcome of pneumonia rates in stroke patients. They
prospectively introduced dysphagia screening and management of all patients with stroke within 1 day of admission prior to oral intake, and compared these results with pre-program data collected retrospectively. A significant reduction in the occurrence of pneumonia following introduction of the screening and management program was observed. They concluded that in comparison to the number of bed days and associated costs of a patient developing aspiration pneumonia, a speech pathology service was more cost efficient. Improved cost-efficiency was also reported by Mullen, Frymark and Stowe (2005). Similarly, Hinchey et al. (2005) reported that adherence to a dysphagia screening and management program resulted in a decrease in the risk of pneumonia following stroke.

Lucas and Rogers (1998) compared dysphagia management for stroke patients in two hospitals with different levels of involvement by speech pathology. The first hospital had a speech pathologist located on site as part of the acute team, and the second hospital requested speech pathology services from another agency when required. At the first hospital, 84% of patients identified with dysphagia received speech pathology input. In contrast, no patients at the second hospital who were identified with dysphagia were noted to receive direct speech pathology consultation. Lucas and Rogers also found differences in the documentation of nutrition and hydration recommendations between the two hospitals. The second hospital documented recommendations less often for patients identified with dysphagia. Furthermore, management of patients with dysphagia was noted to be “less cautious” at the hospital without regular speech pathology input. There were also differences in the use of chest physiotherapy between the two hospitals, with the second hospital using this service more frequently. Staff reported challenges relating to training and team work at the second hospital. Due to the small study size, it is difficult to draw firm conclusions regarding the outcomes of this study, but the results do pose interesting considerations for non-metropolitan hospitals without an on-site service. In another study, Carnaby, Mann and Hankey (2006) also observed similar trends, with the patients who received more dysphagia care demonstrating a reduction in medical-related complications and improved rates of return to normal oral intake by 6 months post-stroke. These studies highlight a potential link between the ease of access to a speech pathology-led dysphagia program and clinical outcomes.

The level of speech pathology input and its relationship to outcomes was also explored by DePippo, Holas, Reding, Mandel and Lesser (1994), who conducted a
randomised controlled trial of graded levels of speech pathology intervention in 115 patients following stroke. They found no significant difference between three treatment groups in terms of medical outcomes. However, the study was limited due to the absence of a control group, methodological limitations related to study end points, and the fact that patients recruited were over 3 weeks post-stroke. It did, however, highlight the need to further investigate the level and amount of involvement required by speech pathology to facilitate appropriate outcomes.

In a systematic literature review, Doggett et al. (2001) found that the limitations of current research did not allow determination of the efficacy of dysphagia assessment. However, they did find that implementation of dysphagia programs was accompanied by substantial reductions in pneumonia rates for elderly patients following stroke.

Some of the specific guidelines are still being debated and explored, and these are discussed throughout this chapter. Although limited, the literature to date does support management of dysphagia in an organised manner. Dysphagia management protocols and the intensity of input have been associated with improved medical outcomes. The existence and use of such protocols and the extent of input able to be provided in non-metropolitan areas is unknown, and is explored in this research.

2.2 THE ASSESSMENT OF DYSPHAGIA

The detection and subsequent assessment of dysphagia in the acute hospital setting can ideally be broken down into several parts, and has been referred to as a “three-tiered assessment cascade” (Farrell & O’Neill, 1999). The screening test, the clinical (or “bedside”) assessment and instrumental assessment are utilised in various forms and degrees depending on resources and expertise. It is important to have a working knowledge of each of these components in order to appreciate the different role each plays in the management of dysphagia. This has implications for rural practice which are discussed later in the chapter.
2.2.1 Non-instrumental Assessment of Dysphagia

2.2.1.1 Screening Tools

The purpose of screening for dysphagia is to identify patients who are at high risk of oropharyngeal dysphagia and to subsequently initiate referral for full assessment and management of the condition (Logemann, 1998; Martino, Pron & Diamant, 2000; Perry & Love, 2001). Screening should be viewed separately from assessment as the aims are very different (Perry & Love, 2001). It is not an alternative to a clinical assessment (Farrell & O’Neill, 1999).

Screening for dysphagia, especially in high risk populations such as patients who have suffered a stroke, aims to decrease health risks through early identification (Martino et al., 2000). Some literature suggests that screening may decrease the need for full assessment (Perry, 2001a). This in turn is then proposed to decrease the workload of the speech pathologist, as screening can be undertaken by medical or nursing staff on admission. However, there is also the belief that all neurologically impaired patients should also undergo a full assessment conducted by a speech pathologist or swallowing specialist (Logeman, 1998). This is to ensure that more subtle signs of dysphagia are investigated thoroughly, and the patient is subsequently managed appropriately.

There is a small but growing body of research regarding the effectiveness of screening. Many researchers agree that it benefits patients and institutions (Hinchey et al., 2005; Logemann, Veis & Colangelo, 1999; Martino et al., 2000; Martino et al., 2009; Perry & Love, 2001). Reduced pneumonia rates, decreased length of stay, and decreased staffing costs have all been identified as potential benefits of early dysphagia identification through universal screening (Martino et al., 2000). Hinchey et al. (2005) found that the presence and use of a formal protocol for dysphagia screening decreased the risk of pneumonia three-fold compared to services that did not have a formal protocol in place. They advocated that formal screening of all patients following acute stroke should be offered.

The large number of screening tools available is highlighted in reviews on the topic (Perry & Love, 2001; Martino et al., 2000). Swigert, Riquelme and Steele (2006b) noted that screening procedures can include questionnaires or interviews, medical

1 However, it should be noted that the literature often presents screening and clinical assessment as analogous. This is strictly incorrect, as screening is defined as a hands-off procedure.
history review, evaluation of gag reflex or pharyngeal sensation, observation for cough during water swallow, observation of specific clinical signs from oral motor exam as well as trials of water, observation for changes in voice quality post-swallow, pulse oximetry, cervical auscultation, and elicitation of the cough reflex with tartaric acid. Exactly what constitutes a screener and the form it should take is still debated in the literature.

One of the reasons for the difficulties in determining an optimal screening protocol is that researchers have yet to agree on the most predictive signs of dysphagia. It has been noted that evidence of screening accuracy in published reviews was difficult to determine due to limitations in study design (Martino et al., 2000; Perry & Love, 2001). Overall, however, screening tools tend to have similarities. Most use a small number of clinical features with or without a water swallow test (Perry & Love, 2001). A review by Martino et al. (2000) noted that of 49 tests evaluated, sufficient evidence existed to support only two, the 50ml water swallow test and abnormal pharyngeal sensation.

Most screening tests have been noted to have broad construct validity, in that they measure the recognised clinical indicators of dysphagia (Swigert, Steele & Riquelme, 2006a). However, none seem to be able to show adequate sensitivity and specificity in identifying aspiration or dysphagia (Swigert et al., 2006a). Sensitivity of a selection of water swallow screening tests ranged from 54% to 96.5%, and specificity from 48.7% to 79% (DePippo, Holas & Reding, 1994; Garon, Engle & Ormiston, 1995; Lim et al., 2001; Suiter & Leder, 2008; Tohara, Saitoh, Mays, Kuhlemeier & Palmer, 2003; Wu, Chang, Wang & Lin, 2004). Suiter and Leder (2008) noted that passing a water swallow test appeared to be a good predictor of ability to tolerate thin fluids, but failing the test did not always mean an inability to tolerate oral intake. Yet failing the test could lead to people having their oral intake restricted unnecessarily. Garon et al. (1995) emphasised that the water swallow test used alone was not an adequate measure, and could place the patient at unnecessary risk.

Many published screening tools risk missing patients with milder forms of oropharyngeal dysphagia due to an emphasis on aspiration as the “diagnostic marker” (Hinds & Wiles, 1998; Logemann et al., 1999; Martino et al., 2000; Swigert et al., 2006a). Martino et al. (2000) reported that 63% of studies reviewed used laryngeal signs alone as indicators of dysphagia. The development of a diagnosis-specific tool which extends beyond the identification of aspiration into identification of oral phase
difficulties has been proposed to improve the screening process (Logemann, 1999, 2000b). This may then lead to further awareness of dysphagia as a separate entity from aspiration per se. As a result, some researchers have developed stroke-specific screening tools to improve the identification of dysphagia in this population (e.g. Martino et al., 2009). This has resulted in some promising improvements in specificity and sensitivity (e.g. Martino et al., 2009).

An important factor to consider when discussing screening tools is the personnel who administer them. Surprisingly, many tools described in the literature lack specification of appropriate personnel to undertake the screening. This is particularly important when considering that screening would be necessary soon after admission (Perry, 2001), when a speech pathologist might not be present. It is often unclear as to how much training is required for the use of each tool. Acknowledgment of the nurse’s role in identifying dysphagia has been noted (Perry, 2001a; Dangerfield & Sullivan, 1999). However, there has been only limited evaluation of outcomes of dysphagia screening by nursing staff. A descriptive report by Dangerfield and Sullivan (1999) outlining a flow chart screening tool, suggested that when nursing staff were “well trained”, outcomes were similar to when patients were assessed by a speech pathologist. Perry (2001a, 2001b) also noted that when nursing staff were trained to use the Standardised Swallowing Assessment (Ellul & Barer, 1996), good agreement with speech pathology clinical judgement was achieved. However, it has been emphasised that use of other professionals to undertake screening does not substitute for speech pathology assessment and intervention, and that training and the maintenance of competencies are essential in this process (Dangerfield & Sullivan, 1999; Perry, 2001a). Swigert et al. (2006b) emphasised that a speech pathologist should be involved in any training of other professionals who may be responsible for undertaking screening procedures.

Perry and Love (2001) advocated screening of all stroke patients until research is able to identify a reliable indicator of dysphagia and aspiration. Although the evidence base regarding the benefits of dysphagia screening is still emerging, there is a definite trend towards ensuring that all stroke patients are screened as early as possible in their admission. This is supported through the recommendations of a number of international stroke guidelines as highlighted in Table 2.3. However, until a screening tool can accurately identify all patients with dysphagia, its use must be carefully
monitored, and provision for the training and maintenance of staff to undertake the procedure must also be taken into consideration.

It has been proposed that from an ethical perspective, screening poses two major points for consideration (Juth & Munthe, 2007). First, the issue of validity of a screening test must be considered. The evidence presented above suggests that further work is necessary in this area, and furthermore, little is known about the tools that are used in the non-metropolitan setting. Secondly, for screening to be ethically justified, there must be treatment available to support those who are identified through the process as requiring service (Juth & Munthe, 2007). The availability of such services in non-metropolitan areas is unknown. This study consequently examines which processes are used in some of these areas.

2.2.1.2 Clinical Bedside Assessment

The clinical bedside assessment is the most commonly used tool in the evaluation of dysphagia following acute stroke. The aim of the clinical examination is to develop a plan of management for the patient, including possible treatment options and the need for further assessment (Murray, 1999). In Australia, speech pathologists are trained at a basic level during their university studies to complete this assessment as part of their core competencies (Speech Pathology Australia, 2001).

Broadly, the clinical assessment consists of several components. The first is the case history, which in the acute setting is often taken from the medical file (Daniels, 2000; Groher, 1994; Logemann, 1998). An oromotor assessment is the next component central to the clinical assessment (Daniels, 2000; Daniels et al., 1998; Logemann, 1998). This is imperative for assessing the integrity of the musculature and underlying neurological function involved in the swallowing process and for making predictions regarding types of consistencies the patient may be able to manage (Daniels, 2000). It provides the basis for the choices of oral trials, and their appropriateness. The final component of the assessment is generally described as the oral trial or oral observation section (Daniels, 2000). Although many studies describe water swallows to identify possible aspiration (e.g. DePippo et al., 1994), various other consistencies are also regularly trialled to more broadly identify dysphagia (Daniels, 2000), such as semi-solids, solids and thickened fluids. This allows the clinician to determine appropriate
diet and fluid consistencies. Some clinical bedside assessments also utilise adjuncts such as pulse oximetry (e.g. Smith, Lee, O’Neill & Connolly, 2000) which is discussed in the next section.

The clinical assessment, like screening tools, is limited in terms of its validity. Research in this area has used comparison with videofluoroscopy to establish validity. Table 2.4 presents examples of studies and the sensitivity, specificity, and positive and negative predictive values related to the clinical assessment. It should be noted that these studies used aspiration as the outcome, and not the definition of dysphagia provided earlier in this chapter.

Table 2.4
*Examples of studies reporting the sensitivity and specificity of the clinical examination*

<table>
<thead>
<tr>
<th>Study</th>
<th>n</th>
<th>Items in clinical examination</th>
<th>Sensitivity %</th>
<th>Specificity %</th>
<th>Positive predictive value (%)</th>
<th>Negative predictive value (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rosenbek et al. (2004) &amp; McCullough et al. (2000)</td>
<td>60</td>
<td>History, oromotor exam, voice, trial swallows</td>
<td>60</td>
<td>91</td>
<td>43</td>
<td>90</td>
</tr>
<tr>
<td>DePippo et al. (1994)</td>
<td>44</td>
<td>3oz water swallow test</td>
<td>76</td>
<td>59</td>
<td>Not reported</td>
<td>Not reported</td>
</tr>
<tr>
<td>Daniels et al. (1997)</td>
<td>59</td>
<td>Oromotor exam and clinical assessment (including water trials)</td>
<td>92</td>
<td>67</td>
<td>Not reported</td>
<td>Not reported</td>
</tr>
<tr>
<td>Smithard et al. (1998)</td>
<td>94</td>
<td>Standardised bedside assessment (full oromotor exam and oral trials)</td>
<td>47</td>
<td>86</td>
<td>50</td>
<td>85</td>
</tr>
</tbody>
</table>

The data presented in Table 2.4 highlight the variability in results for the clinical bedside assessment. Studies have attempted to describe clinical indicators to support the usefulness of the clinical bedside assessment as a predictive tool (e.g. Daniels, Ballo, Mahoney & Foundas, 2000; Daniels, McAdam, Brailey & Foundas, 1997; Linden,
Examples of these are listed in Table 2.5. However, a definitive list of predictors remains elusive, and it should be noted that there is contention surrounding some of these predictors, with studies in this area being limited by methodological issues and small numbers. To date, no research has been able to identify the combination of components which will lead to adequate identification of dysphagia at bedside, and it has been noted that clinical bedside assessment underestimates dysphagia but overestimates aspiration (Mann et al., 2000). It is evident that further work is required in this area.

Table 2.5
*Examples of potential clinical predictors of dysphagia*

<table>
<thead>
<tr>
<th>Potential clinical predictor of dysphagia</th>
<th>Supporting studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absence of gag reflex</td>
<td>Daniels et al. (1998); Gordon et al. (1987); Horner (1988); Linden &amp; Siebens (1983); Ramsey, Smithan Donaldson &amp; Kalra (2005)</td>
</tr>
<tr>
<td>Spontaneous cough during/after test swallows</td>
<td>McCullough, Wertz &amp; Rosenbek (2001); Daniels et al. Logemann et al. (1999)</td>
</tr>
<tr>
<td>Abnormal volitional cough</td>
<td>Daniels et al. (1998); Gordon et al. (1987); Horner, Massey (1993)</td>
</tr>
<tr>
<td>Clinician’s overall judgement of dysphagia</td>
<td>McCullough et al. (2001)</td>
</tr>
<tr>
<td>Wet voice and/or dysphonia</td>
<td>Daniels et al. (1998); Horner et al. (1988); Linden &amp; Siebens (1983); Logemann et al. (1999); Perlman, Booth &amp; (1994); Warms &amp; Richards (2000)</td>
</tr>
<tr>
<td>Dysarthria</td>
<td>Daniels et al. (1998); Logemann et al. (1999)</td>
</tr>
</tbody>
</table>

Perhaps not surprisingly, the lack of consensus regarding clinical predictors of dysphagia has resulted in many published variations of clinical assessment (Ramsey et al., 2003), and there are likely to be even more versions at individual institutions (e.g. Fisher, 2004). These inconsistencies in the clinical examination have been highlighted in several studies. In a survey of 64 participants, Mathers-Schmidt and Kulinski (2003) found inconsistency in undertaking assessment of sensory function, assessment of gag reflex, cervical auscultation and assessment of trial swallows using compensatory techniques. Clinicians were noted to agree in their recommendations for presented case
studies on only two of six scenarios presented. Consistent with these results, Pettigrew and O’Toole (2007), in a survey of speech pathologists working in Ireland, found that only 11 of 20 components of the clinical bedside assessment were used with a high degree of consistency. Furthermore, clinicians were noted to agree in their instrumental versus non-instrumental evaluation recommendations for only two out of six patient scenarios, indicating a wide variability in clinical decision making. This variability was also observed in studies of UK- and Ireland-based speech pathologists (Bateman, Leslie & Drinnan, 2007). Martino, Pron & Diamant (2004) noted in their study of Canadian-based speech pathologists that clinicians tended to utilise assessment items that they personally considered were of importance.

Some expert opinion does look favourably upon modifications of the assessment to suit the setting and population (Groher, 1994). However, it is strongly recommended by many authors that regardless of the type of clinical examination, it should be structured formally, with the use of a protocol or guide, to reduce the risk of missing important information (Daniels, 2000; Fisher, 2004; Groher, 1994; Murray, 1999; Smithard et al., 1998). The number of centres that adhere to this recommendation in practice is unknown.

Studies of the reliability of the clinical examination have further noted the limitations of this assessment. McCullough et al. (2000) investigated inter- and intrajudge reliability between three experienced speech pathologists undertaking clinical assessments on 20 subjects within 6 weeks of stroke. Of the 54 clinical measures undertaken, only 24 (44%) were rated with sufficient inter- and intrajudge reliability. The most reliable measures were those for oral motor function (58%) and voice quality (60%). The least reliable were those for oral trials, for which, when separated into food and fluid consistencies, only 15% of all measures were made reliably. These results emphasise the need for caution in basing management decisions solely on the clinical bedside assessment.

The research presented here illustrates the limitations of the clinical bedside assessment. There is no consensus in the literature regarding the best type of swallowing assessment to use after stroke (Leder & Espinosa, 2002). However, the literature and expert opinion strongly support the use of the clinical assessment as one part of a patient’s management (Groher, 1994; Langmore & Logemann, 1991), but not as the sole form of assessment on which all clinical decisions are based. Limited sensitivity and specificity have been noted. This is because of the challenges in linking
clinical indicators at the bedside with events in the pharyngeal phase of the swallow (Daniels, 2000; Groher, 1994; Han, Paik & Park, 2001). The bedside assessment is therefore limited in its ability to detect silent aspiration. It should not be disregarded, however, as it serves an important role in a patient’s overall management. It can guide the selection of further diagnostic assessments and awareness of the patient’s ability to tolerate them (Goodrich & Walker, 1997). Indeed, for some clinicians, it may be the only tool available (Mann, 2001; Mann et al., 2000; Tohara et al., 2003). Despite all these limitations, it is most certainly considered the minimal standard in the assessment of acute stroke patients (Daniels, 2000).

2.2.2 Adjuncts to the Clinical Assessment of Dysphagia

Although technically classified as forms of instrumental assessment due to the use of equipment, cervical auscultation and pulse oximetry have both been reported as potential adjuncts to the clinical bedside assessment. They are therefore presented here as part of the clinical assessment battery.

2.2.2.1 Cervical Auscultation

Cervical auscultation refers to the assessment of swallowing sounds (Cichero & Murdoch, 1998). Originating from the premise of chest auscultation, cervical auscultation is proposed as a portable, inexpensive adjunct to the clinical assessment (Cichero & Murdoch, 1998; Speech Pathology Australia, 2005a). In the clinical environment cervical auscultation is usually undertaken using a high quality stethoscope placed on a specified position on the neck to enable the clinician to listen to swallowing sounds and make a judgement of their quality (Cichero, 2000). It should be noted that there are other methods of listening to swallowing sounds, including the use of laryngeal microphones and sonography, that are generally used in the research setting (Zenner, Losinski & Mills, 1995). Only a small number of studies have been undertaken in the functional use of cervical auscultation.

Huckabee, Coombes and Robb (2005) noted that in the normal swallow, swallowing sounds are generally repeatable. It has been suggested that patients with dysphagia demonstrated acoustic swallowing characteristics that differed from those of unimpaired controls, due to altered respiratory patterns (Cichero & Murdoch, 1998).
Resting respiratory patterns and swallow respiration patterns in dysphagic patients following stroke have both been noted to differ from those of normal subjects (Leslie, Drinnan, Ford & Wilson, 2002a, b). There is also general consensus that the dysphagic swallow is different in pattern from the normal swallow (Cichero & Murdoch, 1998; Borr, Hielcher-Fastabend & Lucking, 2007).

Borr et al. (2007) investigated the reliability and validity of cervical auscultation by three groups of subjects: laypersons, students and expert speech pathologists. They found that all groups could distinguish between younger and older swallows, but that the speech pathologists were most reliable in recognising the dysphagic swallow. All groups reported “quality” of swallow to be important in making their judgements, something which is difficult to explicitly measure. The speech pathologists were also observed to overestimate the presence of dysphagia, and some clinicians were more skilled than others, suggesting that they must be using some internal criteria to judge sounds correctly. Similar findings related to the clinical observation of swallowing sounds were also reported by Leslie, Drinnan, Finn, Ford and Wilson (2004), and Stroud, Lawrie and Wiles (2002). The challenge, then, is to determine if and how this ability to classify sounds accurately could be achieved. To date, there is contention surrounding the correlation of swallowing events with specific acoustic markers (Borr et al., 2007; Cichero & Murdoch, 1998; Hamlet, Nelson & Patterson, 1990; Perlman, Ettema & Barkmeier, 2000; Zenner et al., 1995).

It is not claimed that cervical auscultation is an alternative to the clinical or the videofluoroscopic examination. Rather, it is promoted as an “enhancement” of the assessment (Borr et al., 2007; Zenner et al., 1995). As with all assessments, there are limiting factors in the use of cervical auscultation. These include the quality of the stethoscope being used (Hamlet, Penney & Formolo, 1994), the positioning of the stethoscope (Takahashi, Groher & Michi, 1994), the training level of the clinician, and the possibility of acoustic information being misinterpreted. Cichero and Murdoch (2002) also proposed that the equipment used and the application of that equipment should be standardised to allow comparison across clinics. Speech Pathology Australia (2005a) also advocated that clinicians intending to use this technique undergo comprehensive training. Until more specific and definitive information is available regarding the cause and interpretation of swallowing sounds, cervical auscultation as an assessment technique must be treated with caution (Borr et al., 2007; Cichero & Murdoch, 1998; Hamlet et al., 1990).
2.2.2.2  Pulse Oximetry

Pulse oximetry refers to the monitoring of arterial oxygen saturation (SpO$_2$) levels (Sellars et al., 1998). It has been hypothesised that changes in SpO$_2$ levels may reflect episodes of aspiration. However, the mechanism underlying these changes remains unclear (Ramsey et al., 2003). There are also limitations surrounding the equipment, which has been reported to have a manufacturer’s accuracy of +/-2%. Despite these limitations, Sellars et al. (1998) noted advantages of pulse oximetry, such as being non-invasive, requiring minimal patient cooperation, being objective, providing continuous readings, and being portable. It is also widely available in hospital settings, negating the need for specialised equipment.

The potential use of pulse oximetry as a tool for the assessment of dysphagia has been proposed by several studies. Sherman, Nisenboum, Jesberger, Morrow, and Jeberger (1999) assessed 46 dysphagic patients using pulse oximetry and videofluoroscopy and found that patients who exhibited laryngeal penetration and/or aspiration without clearing (i.e. coughing) demonstrated significant decline in SpO$_2$. Conversely, patients who penetrated and cleared or did not demonstrate penetration did not exhibit this decline. The authors suggested that with further investigation, it might be possible to identify threshold values to allow the use of pulse oximetry in screening dysphagic patients.

Smith et al. (2000) compared pulse oximetry to bedside assessment and videofluoroscopy in a study of 53 patients following acute stroke. They found that combining the bedside assessment with pulse oximetry gave the best positive predictive value of 95% (with penetration +/- aspiration as end point). This contrasted with the bedside swallowing assessment and pulse oximetry administered individually, which gave positive predictive values of 83% and 69% respectively. Laryngeal penetration was often mistaken for aspiration at bedside.

The use of pulse oximetry as an adjunct to the clinical assessment was also supported by Collins and Bakheit (1997), who studied pulse oximetry in 54 consecutive dysphagic stroke patients and simultaneously comparing the results to videofluoroscopy. They concluded that pulse oximetry reliably predicted aspiration “or lack of it” in 81.5% of their sample population. Similarly, in a study of acute stroke patients, Zaidi, Losinki and Mills (1995) found that patients who were clinically assessed to be at risk of aspiration desaturated more than control subjects after
swallowing water. A series of three case studies of adults with severe neurological disabilities by Rogers, Msall and Shucard (1993) also supported these findings. Lim et al. (2001), in their study of 50 patients following acute stroke, found that when pulse oximetry was combined with a 50ml water swallow test the sensitivity was 100% and the specificity was 70.8%. This was significantly better than performing either of the tests in isolation.

Conversely, Ramsey, Smithard and Kalra (2006) did not find a strong relationship between aspiration and changes in SpO₂. In their study of 189 acute stroke patients, even combining the clinical bedside examination and pulse oximetry did not significantly improve predictive values. Sellars et al. (1998) also failed to find a clear relationship between changes in SpO₂ and aspiration. In their study of six dysphagic patients of varied neurological aetiology compared to a control group, they found that dysphagic patients tended to exhibit altered respiratory patterns during oral intake. However, these were not necessarily related to aspiration as seen on videofluoroscopy.

Similarly, Colodny (2000) found no direct relationship between desaturation and aspiration in a sample of 104 dysphagic patients and 77 controls with simultaneous use of fiberoptic endoscopic evaluation of swallowing (FEES). She concluded that desaturation appeared to be related more to dysphagia in general than aspiration specifically. Colodny (2001b) hypothesised that dysphagic patients’ respiratory systems are often compromised, and that this may be used as an indicator for further assessment. Collins and Bakheit (1997) also warned that pulse oximetry may not be as reliable in older subjects, people who smoke and patients with chronic lung disease. This obviously has implications for the patient group suffering from stroke, as many of these conditions may apply.

Although there have been several studies of pulse oximetry, there are flaws in the research to date that require it to be viewed with caution. Many of the studies have had a small sample size. Some, such as those of Zaidi et al. (1995) and Ramsey et al. (2006), did not simultaneously undertake an instrumental assessment such as videofluoroscopy or FEES while collecting the pulse oximetry measures. And some, such as that by Collins and Bakheit (1997), did not utilise a control group. Support for the use of pulse oximetry in the detection of aspiration is inconclusive. It is unclear whether the changes in SpO₂ reflect episodes of aspiration, dysphagia more generally.
or are related to other causes. At best, pulse oximetry can be used with caution in conjunction with a bedside assessment, as opposed to using it as a diagnostic method in isolation (Colodny, 2000; Smith et al., 2000). Further work is needed in this area.

2.2.3 Instrumental Assessment of Dysphagia

Given the limitations of the clinical bedside assessment, it is not surprising that many clinicians utilise instrumental assessment to improve the information available to make management decisions. There is general support within the literature and the profession internationally for the use of instrumental assessment to manage the patient with dysphagia. The extent to which each procedure is supported by the literature varies. The most common instrumental assessment tools are now outlined in terms of their advantages and disadvantages.

2.2.3.1 Videofluoroscopy

A videofluoroscopy\(^2\) is a radiographic examination that allows the clinician to observe the dynamic swallowing process. Simply, it is a moving x-ray of a patient’s swallow. During the procedure, the patient is given a variety of radiopaque food and fluid consistencies to eat while the clinician assesses the swallow process (Logemann, 1997; Speech Pathology Australia, 2005a).

Videofluoroscopy has been referred to in many studies as the “gold standard” of dysphagia assessment (e.g. Logemann, 1998; O’Donoghue & Bagnall, 1999), although this has been debated (Atherton & Hyland, 2003; Mann et al., 2000). Most authors agree that the videofluoroscopic procedure is currently the most comprehensive method for assessing dysphagia, as it allows the clinician to view all phases of the swallow (Daniels et al., 1998; Logemann, 1998; Mendelson, 1988; Palmer, Kuhlemeier, Tippett & Lynch, 1993; Wilcox, Liss & Siegel, 1996).

The purpose of videofluoroscopy extends beyond assessment. Although superficially videofluoroscopy may be seen as a tool to determine the presence or absence of aspiration, its real clinical applications lie in its ability to allow the clinician to determine why this may be happening (Logemann, 1998). This two-pronged

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\(^2\) In Australia, videofluoroscopy is also referred to as a “modified barium swallow”. The term “videofluoroscopy” is used throughout this thesis. The only use of modified barium swallow or MBS is in informants’ verbatim transcripts.
approach incorporating diagnosis and treatment provides the dysphagia clinician with a valuable tool for the development of patient-focused intervention (Logemann, 1997; Palmer et al., 1993;).

The clinical utility of videofluoroscopy was further confirmed by Martin-Harris, Logemann, McMahon, Schleicher and Sandidgo (2000), who investigated the impact of videofluoroscopy on patient management by examining a database of 608 studies. This retrospective analysis examined the number of changes made to patient management as a result of undergoing videofluoroscopy. They found that 82.6% of patients had a change in at least one component of their treatment recommendations (e.g. diet modifications) following a videofluoroscopy. Referrals to specialists such as dieticians or gastroenterologists were made for 26.3% of patients based on their videofluoroscopy results, and 48.4% of patients were trialled with strategies that had beneficial outcomes for their swallowing safety. The authors stated that it is important to see videofluoroscopy as more than a tool to simply identify aspiration. Rather, the identification of the “nature” of the disorder allows the guesswork to be taken out of the management equation, thereby saving time and resources and improving outcomes, despite the initial cost of the procedure. Mendelson (1988) also found that 45% of patients assessed using videofluoroscopy had diet modifications initiated as a result of the findings. Garon, Engle and Ormiston (1996) stated that the cost of “liberal and early” use of videofluoroscopy to prevent events such as aspiration pneumonia is “relatively small”, and outweighed the costs of developing adverse outcomes. Sorin, Somers, Austin and Bester (1988) also supported the use of several assessment modalities to assist in the management of patients with dysphagia, and added that decisions regarding long-term non-oral feeding should never be made on the basis of a clinical assessment alone. In contrast, Teasell, McRae, Heitzner, Bhardwaj and Finestone (1999) found in a retrospective study comparing two hospitals’ videofluoroscopy practices that more frequent use of videofluoroscopy following the first 15 days after the stroke was not associated with a reduction in the development of pneumonia. These data suggest that although videofluoroscopy has been shown in some studies to have potentially positive clinical outcomes for patient management when utilised as a tool for both diagnostic and therapeutic means, the optimal frequency and timing of videofluoroscopy requires further investigation.
The perception of videofluoroscopy as an objective study is controversial (Ramsey et al., 2003). This is due to the need for a clinician to interpret the results. The development of a standard protocol for interpreting videofluoroscopy results for the neurogenic population has been claimed to result in improved patient care, efficient use of time, improvements in the consistency of data collected and better reporting of results (Palmer et al., 1993). Many protocols have been proposed for videofluoroscopy to assist in standardising the procedure, with some of these being published and some being institution specific. Published protocols vary in terms of exact food and fluid consistencies trialled, the order in which they are administered, timing of manoeuvre and compensatory strategy trials and discontinuation criteria (O’Donoghue & Bagnall, 1999). To date, no consensus has been reached (Doggett, Turkelson & Coates, 2002). McCullough, Wertz, Rosenbek and Dinneen (1999) investigated clinicians’ preferences and practices in conducting videofluoroscopic studies. They found that although clinicians appeared to be utilising some research support to determine how they evaluated patients, there was still variation in how this was undertaken in practice. Ambiguity also surrounds the criteria used to refer a patient for the procedure (Teasell et al., 2007).

Inter- and intrarater agreement for videofluoroscopy is an area which has surprisingly attracted only a small amount of attention within the literature. Intrajudge agreement has been noted to be stronger than interjudge agreement (Becker, McLeRoy & Carpenter, 2005; McCullough et al., 2001). Wilcox et al. (1996) investigated the level of interjudge agreement for videofluoroscopy by comparing the evaluation of three cases by 10 speech pathologists. Speech pathologists with a range of experience were provided with case history and a videofluoroscopy for each patient and were asked to evaluate the video using a set pro forma and then choose appropriate intervention techniques. Poor agreement was found between clinicians for both diagnostic and therapeutic variables, posing questions regarding the reliability of this assessment in the clinical setting. Although there are some differences in methodology, these results of limited interrater reliability have been supported in other studies (McCullough et al., 2001; Stoeckli, Husman, Seifert, Martin-Harris, 2003). However, this has also been shown as an area that could be improved with training and increased specificity in definitions of parameters (Gibson, Phyland & Marschner, 1995; McCullough et al., 2001; Stoeckli et al., 2003). A study by Scott, Perry and Bench (1998) demonstrated that improved interrater reliability occurred following group discussion. Participants in
the study by Wilcox et al. (1996) also indicated that they rarely assessed patients’ videofluoroscopy results alone, usually employing the opinion of another speech pathologist in interpretation and management of each case. O’Donoghue and Bagnall (1999) asserted that in order to claim that videofluoroscopy is the “gold standard” in assessment, improvements in reliability were essential.

Another important consideration is the representativeness of the videofluoroscopy procedure (Perry & Love, 2001). A videofluoroscopy at best provides a snapshot of a patient’s swallowing function, and the applicability of this to a patient’s management is not well understood. The procedure itself, the environment and the foods administered may have significant consequences for the outcomes of the investigation and how useful the results are in a patient’s daily functioning. It should be stressed that most clinicians advocate the use of videofluoroscopy in conjunction with a full clinical examination to increase the usefulness of the assessment (Logemann, 1998).

In addition to the challenges surrounding the assessment itself, there is also some acknowledgment in the literature of issues surrounding use of videofluoroscopy in the clinical setting. In their study of acute stroke patients, Mann and Hankey (2001) found that access to videofluoroscopy was limited by the availability within the setting in which they were working, as well as other professionals’ perceptions of videofluoroscopy. As videofluoroscopy was not seen as “standard care practice” for acute stroke, patients were placed at a lower priority among radiological procedures. Thus, access was compromised.

Another consideration that often ties in with the concept of accessibility is cost (Feinberg, 1993; Finestone, 2000;). As well as the speech pathologist’s time to undertake the procedure and evaluate it, there are also costs associated with taking the x-ray itself (such as screening time, tape usage, barium usage), time of a radiographer, time of a radiologist (if applicable) or an additional speech pathologist, use of transport (if required) or time of orderly staff and use of other allied health professionals (such as a physiotherapist). Other patient aspects such as suitability in terms of positioning and compliance are all important factors in determining whether a videofluoroscopy will be undertaken or not (Perry & Love, 2001). Very little is known about the presence and impact of restrictions on patient management in non-metropolitan areas, and this study allows investigation of this matter.
Although there is much clinical support for the use of videofluoroscopy, from a research perspective there are limited data to validate its outcomes for patient management (Groher, 1994). Further studies investigating the efficacy of this procedure are essential to justifying its ongoing use in the clinical setting (Groher, 1994). There is much debate surrounding the use of videofluoroscopy in acute stroke and in the dysphagic population in general. This debate focuses largely on the role of videofluoroscopy and whether it should be standard practice for all patients who demonstrate clinical signs of dysphagia or aspiration. However, it is currently considered the best available tool for the assessment of dysphagia. The way it is used and its availability in the non-metropolitan context are not documented.

2.2.3.2 **Fiberoptic Endoscopic Evaluation of Swallowing (FEES)**

FEES was first described by Langmore, Schatz and Olsen in 1988 as a useful addition to the swallowing assessment battery. Bastian (1991) also described a very similar assessment to FEES, calling it videoendoscopic evaluation of dysphagia (VEED). Both FEES and VEED use a flexible endoscope inserted through the nasal passage to view the structures of the pharynx and larynx whilst the patient’s swallowing function is being assessed (Bastian, 1991; Langmore et al., 1988). As most clinicians are familiar with the term FEES, the process is referred to as such throughout this thesis.

FEES is limited to assessment of the pharyngeal phase of swallowing, but can provide valuable information related to anatomy that the videofluoroscopy may not, including vocal fold function (Langmore et al., 1988). An assessment of the sensory components of swallowing, known as FEESST (fiberoptic endoscopic evaluation of swallowing and sensory testing) has also been developed based on similar principles, but is not as widely used clinically (Aviv et al., 1998). Although utilised overseas for more than 10 years (ASHA, 1992; RCSLT, 1999), FEES is a relatively new assessment tool in Australia (Speech Pathology Australia, 2007a), and is not as frequently utilised in the clinical environment as the videofluoroscopy. FEES is considered an advanced practice skill requiring specialist post-graduate training (Speech Pathology Australia, 2007a). It is not specifically taught at the basic professional training level in Australia (Speech Pathology Australia, 2007a).
FEES can provide information that is quite different from that obtained by videofluoroscopy, and it can also provide information on patient groups that might otherwise have to forgo instrumental assessment (Langmore, Schatz & Olson, 1991; Speech Pathology Australia, 2007a). A study comparing patients assessed by FEESST and patients assessed by videofluoroscopy showed no significant differences in outcomes regardless of the technique used to assess and guide management (Aviv, 2000). FEES is portable, enabling it to be undertaken at bedside or in an office, which makes it particularly useful for patients restricted to an intensive care unit (Langmore et al., 1988; Bastian, 1991; Leder, Sasaki, & Burrell, 1998). FEES can also be used with or without food, which may be of importance with higher risk patient groups. By adding blue dye to the patient’s saliva, secretion management can be assessed, and valuable information can be provided regarding a patient’s ability to manage food trials (Kidder, Langmore & Martin, 1994; Langmore et al., 1988).

FEES also has the advantage of repeatability. Unlike videofluoroscopy, FEES entails no radiation exposure, which is of benefit in patients who require regular review (Kidder et al, 1994; Leder, 1998; Phyland, 1996). For these patients too, the procedure is reported to be more cost effective overall than the videofluoroscopic study (Bastian, 1991; Kidder et al., 1994), provided that the facility already possesses the appropriate equipment. The implementation of biofeedback in the treatment of dysphagia is also possible with the use of FEES (Bastian, 1991; Kidder et al., 1994). However, that use is beyond the scope of this review.

The information obtained from a FEES examination has also been compared positively to a clinical bedside examination. Leder and Espinosa (2002) studied 49 acute stroke patients with both assessment methods and found that the clinical bedside assessment, when compared with FEES, underestimated aspiration risk in patients with aspiration risk, and overestimated aspiration risk in patients who were not at risk. They advocated that an instrumental examination should be available for patients following stroke, due to the significant limitations observed in the clinical bedside assessment. This stance has also been supported by other experts in the field (Aviv, 2002). Studies have been undertaken to determine the value and reliability of information provided by the FEES assessment, with results suggesting great promise. Langmore et al. (1991) compared FEES with videofluoroscopy in a group of 21 patients of mixed aetiology to determine how well the studies agreed on four parameters: aspiration, penetration, residue and premature spillage. Studies were undertaken within 48 hours of each other,
not simultaneously, and examiners were blinded to results. Agreement was reported to be very high for three of the four parameters, with only premature spillover having a lower predictive value. The authors concluded that FEES was “highly sensitive for residue, penetration and aspiration” (p. 679), and that this provided promise for the technique’s use in the clinic environment. However, despite this promise, even the authors noted that fewer than 50% of the examinations were in total agreement for the four parameters scored, and this might be attributed to the study design leading to variability within the patients.

In a much larger study, Leder et al. (1998) reported more positive results in the identification of silent aspiration using FEES. In a sample of 400 consecutive patients referred for dysphagia examination, the first 56 patients underwent assessment with both FEES and videofluoroscopy. The remainder of the patients underwent FEES alone. Good agreement (96%) was found between the two tests, with within-subject variability accounting for the remaining 4%. The authors concluded that FEES was a “reliable method of detecting silent aspiration” (p. 21), and had many advantages in terms of repeatability, use of regular food (without the addition of barium) and portability.

This was further supported by Colodny (2002), who suggested that by utilising a standardised interpretation scale, the FEES clinical utility could be further improved. In a study of 79 swallows, four experienced speech pathologists demonstrated “substantial agreement” when using the Penetration-Aspiration Scale (developed by Rosenbek, Robbins, Roecker, Coyle & Wood, 1996) to classify the presentations. When the results of this study were compared to Rosenbek’s original study results undertaken by videofluoroscopy, the author concluded that FEES was as “accurate in distinguishing between penetration and aspiration as is videofluoroscopy” (p. 314). Colodny cautioned, however, that training was required to use these techniques.

The consideration of training and qualification is an important one. To the author’s knowledge, no entry level speech pathology course in Australia undertakes training in the use of FEES and its interpretation, and there is no formally recognised post-graduate training program. Due to its classification as an invasive technique, each therapist must currently negotiate with the employer the consent required to use the technique in the clinic, and must provide the employer with evidence of adequate training. The use of FEES has important medico-legal considerations. This is justified due to some of the risks involved in the examination. Although rare, episodes of vasovagal reaction, laryngospasm, nasal haemorrhage, adverse medication reaction
(to topical anaesthetic) and aspiration are possible (Kidder et al., 1994). This therefore raises questions as to which professionals should be present for a FEES and who should conduct it. This was difficult to ascertain from the literature, but no doubt has significant bearing on the use of the procedure in the clinical setting.

There is emphasis in most of the literature surrounding FEES that it is not intended to be a replacement for videofluorographic studies (Leonard, 1997). Rather, it is intended to complement videofluoroscopy and provide new information. However, Langmore (in Kidder et al., 1994) stated that for some patients, FEES may be the tool of choice when determining appropriate assessment strategies. She stated that when clinicians are trained in both techniques they are in a better position to make these decisions. This view is debated by some experts who claim that although FEES is useful, videofluoroscopy is the only form of assessment that can provide a comprehensive view of swallowing function (e.g. Martin, in Kidder et al., 1994). The availability and use of FEES within the non-metropolitan context has not been explored to date.

2.2.3.3 Other Forms of Instrumental Assessment

Although other forms of assessment exist, for the most part they are limited to use in research contexts. This is usually due to availability, expense, invasiveness and need for specialist training. Some of these other forms of assessment are ultrasound, scintigraphy, and cine magnetic resonance imaging. As the interest in this project is clinical practice, this review has been limited to the tools which are most likely to be found within speech pathology clinics in Australia.

2.3 SUMMARY AND IMPLICATIONS FOR THE CLINICAL SETTING

This chapter has presented an overview of current evidence related to the assessment and early management of dysphagia following acute stroke. Dysphagia following stroke is acknowledged as a common occurrence and the evidence suggests that patterns exist in recovery, with the majority of patients regaining swallowing function within the first month following stroke. However, the literature also highlights the negative medical and psychosocial outcomes that are associated with dysphagia, particularly in the acute phase. There is evidence to suggest that intervention for
dysphagia in this acute phase may improve outcomes and decrease the occurrence of medical complications such as aspiration, aspiration pneumonia, malnutrition and even death.

Assessment of dysphagia following stroke has received much consideration in the literature. Studies surrounding the use of instrumental versus non-instrumental assessment have highlighted issues surrounding the sensitivity and specificity of methods that are used in daily practice. As a profession, speech pathology is aware of the limitations of these tools. Although screening tools and clinical bedside assessment are not always accurate in detecting dysphagia, they remain the most commonly utilised tools in the initial assessment of dysphagia following stroke. Evidence for the use of adjuncts to the clinical assessment, such as pulse oximetry and cervical auscultation, remains inconclusive. The literature and expert opinion support the use of instrumental assessment, such as videofluoroscopy or FEES, when clinically indicated, to improve assessment and management of dysphagia in the acute stroke population. Videofluoroscopy is currently considered to be the gold standard in the assessment of dysphagia.

The evidence related to the timing and type of assessment to be undertaken has led to the acute stroke dysphagia management guidelines being developed locally and internationally that support early assessment and management. Early identification and management of dysphagia has been linked to improved outcomes. Although the evidence base for dysphagia following acute stroke is still in development, it can be seen from the information provided in this chapter that timely assessment needs to be undertaken to meet the guidelines for best practice in this area.

Clinical relevance is an issue worthy of consideration, as most research is undertaken in large departments with access to resources beyond those available in most non-metropolitan settings. The literature presented in this chapter highlighted several points that are relevant to the current investigation:

- The role of speech pathology in assessment of dysphagia following stroke and current guidelines that support this role;
- Who undertakes assessment and the role of the dysphagia team;
- The importance of timeliness of assessment;
- The use of screening in the stroke population;
- Clinical assessment, how it is undertaken and the use of adjuncts such as pulse oximetry and cervical auscultation;
- The use of videofluoroscopy in the management of dysphagia following stroke and its acknowledgement in the literature as the gold standard.

The literature presented in this chapter has provided information on how dysphagia should be managed when resources are optimal. However, the literature has not explored the provision of dysphagia assessment following acute stroke and therefore, to the researcher’s knowledge, there is no information available regarding the applicability of the evidence base to the non-metropolitan context. To evaluate this, we first need to consider the features of the non-metropolitan context that may impact on how the evidence presented in this chapter may be utilised and implemented. This context is discussed in Chapter 3.
Chapter 2 presented literature that highlighted support for dysphagia assessment and management following acute stroke. This included assessment within the first 24 hours following acute stroke, as well as subsequent review and instrumental assessment where clinically indicated. An outline of current best practice in this area, including national guidelines related to acute stroke management, was provided. What was not routinely considered in the dysphagia literature presented, however, was the clinical setting in which assessment following stroke was undertaken. The context of service provision could have an impact on how the knowledge derived from the literature in this area could be implemented. This is particularly the case when considering services provided outside of large metropolitan and teaching hospital environments.

Over the past two decades there has been an increasing focus in health literature, government policy and the wider community on issues related to rural health care and the health of people living in rural areas. It is acknowledged that many challenges arise when accessing and providing care in these areas. Wilkinson (2002) noted several features underlying rural health that provide significant challenges: geography, demography, and political, social and economic forces. The rural health literature also specifically discusses service distribution and delivery, workforce issues and the underlying health care policies that guide practice in this area (Duckett, 2007; Harvey, Sandhu & Strasser, 1995). Each of these has been reported to contribute to the challenges faced in the provision of rural health services.

Health differences have been noted to exist based on geographical location, with the health of Australians living in rural, regional and remote Australia reported to be worse than that of their metropolitan counterparts (Hayes, Quinne & Berry, 2005; Healthy Horizons, 2007; Humphreys, 1999). In light of these disparities, the notion of equity and how it relates to rural health becomes an important consideration. This chapter presents a review of the concept of equity in the health arenas and how it relates to the provision of rural health care and speech pathology services.
3.1 EQUITY IN THE CONTEXT OF HEALTH AND HEALTH CARE

Equity...is an objective in itself; it is also a qualifier or second dimension to both quality and acceptability. Both of these latter criteria need to be assessed in terms of their level of attainment and the equity of that attainment. A focus on equity requires analysis of health status or health care differences in geography, class, race, ethnic origin, gender, and so on with the aim of reducing such differences. (Duckett, 2007, p. 3)

In the early 1980s, the World Health Organization (WHO) produced a framework for the consideration of equity in health (WHO, 1985). This document proposed a central goal of “health for all”, and was followed by other documents which updated and continued this vision of equity in health (e.g. Health21: Health For All in the 21st Century, 1998; Health for All Policy Framework Update, 2005). The central theme underpinning these documents is that there is a “recognition of the universal right to health” (WHO, 1998).

The terms “equity” and “inequity” are used in the context of health to describe health status at individual, population and service provision levels (Whitehead, 1990). Whitehead (1990) noted that confusion has often arisen in the discussion of equity, as although interrelated, issues of inequities in health status of a individual or population group need to be distinguished from inequities in the provision of health services. It is acknowledged that health care provision is not the sole determinant of health status, and that other social and environmental factors are also important contributors to health (Braveman & Gruskin, 2003; Dixon & Welch, 2000; Humphreys, 1991; Leeder, 2003; Whitehead, 1990; WHO, 1998). It is well recognised in the literature, for example, that geographical location has the potential to contribute to health status (e.g. Dahlgren & Whitehead, 1992; Dixon & Welch, 2000; Hayes et al., 2005; Healthy Horizons, 2002). The present study is predominately focused on the provision of health care services, and equity is discussed from this perspective, with specific reference to rural issues.

It has been noted that the term “inequity” has moral and ethical connotations, as it “refers to differences which are unnecessary and avoidable”, as well as “unfair and unjust” (Whitehead, 1990, p. 5). A similar social justice perspective has been supported by numerous authors (e.g. Aday & Andersen, 1981; Braveman & Gruskin, 2003; Comino & Howell, 1999; Dahlgren & Whitehead, 1992; Leeder, 2003; Mills, 1998). This means that when investigating whether a service is inequitable, it must be judged in relation to what is happening in other settings (Braveman & Gruskin, 2003;
Whitehead, 1990). So, if a service is readily available in the majority of contexts and not available in others, it could be considered inequitable. When considering access to health services, it has been judged that inadequate access is potentially avoidable, and therefore any health differences arising from this difference in access could be considered unjust and inequitable (Braveman & Gruskin, 2003; Dahlgren & Whitehead, 1992; Whitehead, 1990).

Many definitions have been proposed for equity in health care (Manga & Weller, 1980). The most accepted definitions relate to the accessibility of care (Aday & Andersen, 1981; Magna & Weller, 1980; Whitehead, 1990). Equal access, however, does not always mean equal care (Magna & Weller, 1980). Whitehead (1990, p. 11) therefore proposed that equity be considered in terms of equal access for equal need, equal utilisation for equal need, and equal quality of care for all. A similar definition of equity in health care was proposed by Mooney (2003b) as “equal access to equal care for equal need”. Both these definitions highlight that access to health services alone is not sufficient to meet the targets of equity. The health services accessed also need to be appropriate and adequate in terms of the quality of care that they can provide.

“Equity in health care is based on the principle of making high quality health care accessible to all.” (Whitehead, 1990, p. 21)

This quotation demonstrates the integral link between accessibility and quality of care in equitable service provision. It is proposed that to achieve equity, resources must be allocated appropriately, geographical distribution must be appropriate, the care must be of appropriate quality, and it must be acceptable to the consumer (Whitehead, 1990). The following section, therefore, presents the concepts of accessibility and quality of care as related to the goal of equity in the Australian non-metropolitan context. Suggestions as to how this might apply to speech pathology service provision are also made.

3.1.1 Accessibility and Access to Health Services

It has been noted that access is difficult to conceptualise and can be poorly defined (Magna & Weller, 1980; Penchansky & William Thomas, 1981). Penchansky and William Thomas (1981) described access as factors that permit or prohibit the utilisation of a health care service. Many factors have been observed to impact on
access to health services, including supply of health resources and personnel, finance, indirect costs of obtaining care, transport, information regarding availability of care, and the education level of patients (Aday & Andersen, 1981; Magna & Weller, 1980; Penchansky & William Thomas, 1981). From these factors, those most directly related to this study are concerned with financial and availability. Availability is discussed in terms of geographical availability and workforce availability. These factors are now presented and discussed in relation to the Australian health context and speech pathology services.

3.1.1.1 Financial Considerations for Health Services in Australia

“Choices in health care system design have equity implications in terms of which groups are winners and which are losers.” (Duckett, 2007, p. 2)

The financial and organisational arrangements for health care service provision have been highlighted in the literature as important factors in meeting equity objectives (Magna & Weller, 1980; Hanratty, Zhang & Whitehead, 2007). Underpinning these arrangements is the focus on establishing access to services independently of financial status of an individual or population group. By adopting the principles of equity, a country commits to ensuring that all its citizens are able to access services regardless of an individual’s financial situation or ability to pay (Hanratty et al., 2007). As such, health systems have been described as important “redistributive mechanisms” (Mills, 1998, p. 1) of equity in health where other social and economic determinants may be unevenly distributed.

The health care system in Australia is based on the concept of universal health care for all, based on need. The Medicare system is a national compulsory health insurance scheme which enables all Australians to access treatment in public acute facilities without cost (Duckett, 2007). This includes allied health inpatient services in public hospitals. Similar systems can also be found in other countries such as Britain and Canada (www.dh.gov.uk, 2008; www.hc-sc.gc.ca, 2008). The medicare system in Australia is funded largely through taxation revenue, and people’s contribution is based on their current financial status.

The funding formula for public health services is complex. In Australia it involves multi-tiered input from both Commonwealth and State governments (Commonwealth Department of Health and Aged Care, 2000). Essentially, however, State governments are responsible for the establishment, regulation and funding of acute
hospital services (in addition to a range of rehabilitation and community health services), with additional funding support from the Commonwealth, through the Australian Healthcare Agreements with each state (Duckett, 2007; Swerissen & Duckett, 2002). This means that the Commonwealth government expects the States and Territories to provide certain services in exchange for funding. These agreements are built upon the Health Care (Appropriation) Act 1998. The principles of the Act are that “access to such services by public patients free of charge is to be on the basis of clinical need and within a clinically appropriate period” and that “arrangements are to be in place to ensure equitable access to such services for all eligible persons, regardless of their geographic location” (Health Care (Appropriation) Act, 1998, p. 3). Although straightforward in theory, the reality of how this occurs is far more complex and dependent on the mix of political power and consequent policy directions at any point in time (Duckett, 2007; Hancock, 2002). Due to individual state management, the service provision mix can differ between states, as it is the state and territory governments which determine individual hospital budgets, number and location of hospitals, and the range of services to be provided at each hospital (Department of Health and Aged Care, 1999; Humphreys, 1990). This has the potential to affect the number of allied health professionals as well as their distribution.

In addition to being a multi-tiered healthcare system, it is also a mixed system, with both public and private sectors (Department of Health and Aged Care, 1999). It has been argued that the development of an optional private system alongside the public one has resulted in the development of a less equitable system, as some individuals may benefit more than others (Dahlgren & Whitehead, 1992; Hanratty et al., 2007; Leeder, 2003; Mooney, 2003a). In contrast to Medicare, which was built on the principle of universality, the private system favours those who can afford it, and can result in better access for those who are insured or wealthy, especially for ancillary health care services such as allied health and dentistry (Leeder, 2003).

In countries that offer universal health programs, it has been argued that there is a balancing act that occurs between the “moral right or goal of access to medical care” and cost containment and quality (Aday & Andersen, 1981, p. 5). This is due to the finite resources available to fund these activities and services. It has been suggested that professionals involved in health care are “being expected to do more with less” (Short & Palmer, 2000, p. 450). This means that despite resource limitations, quality services are still expected to be provided (Goldsmith, 1999). Leeder (2003) declared that any
inability to provide services related back to failure in the funding and resourcing of public health services. He stated, “To honour equity, as a nation we must set aside enough resources to buy appropriate, quality services and safe treatments, and make these accessible to our citizens based on their need” (p. 478). Although referring specifically to Australian health services, this comment is also relevant on a more global scale.

The finiteness of resources needs to be taken into account when considering the availability of speech pathology services in non-metropolitan areas. Humphreys (1991) noted that rural areas are “unlikely” to ever have resources equal to those provided in metropolitan locations. However, this does not mean that non-metropolitan residents should be less healthy (Humphreys, 1991). The question then is whether distribution is based on need, appropriateness and the principles of equity. How this applies to speech pathology services for adults following acute stroke is unknown.

### 3.1.1.2 Availability of Health Services and Speech Pathology Services in Australia

Availability refers to the presence of a service, both in terms of how it is available, when it is available and where it is available. If a speech pathology service is not physically available at a location, it means that this service is also not accessible. Likewise, if a service is available only during certain times or days, then these factors will affect how accessible it will be. Availability is discussed here in terms of geographic location and service distribution and delivery, as well as workforce distribution and the issues underlying the availability of health professionals.

- **Geography and its relationship to health services in non-metropolitan NSW and Victoria**

The concepts of rurality and remoteness can be challenging to define (Coleman, Thompson-Smith, Pruitt & Richards, 1999; Humphreys & Rolley, 1991). Definitions of “rural” and “remote” have the potential to be interpreted quite differently based on a person’s point of reference (Couper, 2003; Humphreys & Rolley, 1991). For example, the way in which a person from the United Kingdom might define “rural” in that context is likely to vary significantly from Australian definition. These variations in
definition are important to remember when considering the accessibility of speech pathology services.

Humphreys and Rolley (1991) argued that definitions of “rural” and “remote” could vary according to the purpose for which they were used. They observed that definitions of rural and remote could include reference to geographical criteria such as distance; demographic or social criteria such as population size and density, community attitudes and lifestyle; and economic criteria such as the socioeconomic and economic considerations of an area. Defining “rural” and “remote” is made even more challenging due to the many differences seen between rural areas and their constantly evolving nature (Humphreys & Rolley, 1991). In an effort to determine a system for defining rural and remote areas in relation to services, the Australian Government developed a tool known as the Accessibility & Remoteness Index of Australia (ARIA) (Department of Health and Aged Care, 2001). This system was developed by the National Centre for Social Applications of Geographic information Systems (GISCA), and classifies towns via a “graduated index of remoteness” (Table 3.1). It uses road distance measurements combined with availability of essential services to determine a location’s rural and remote index. These measures of accessibility are then used for planning resource distribution and for policy development. Despite the emergence of the ARIA, its usefulness for measuring accessibility of speech pathology services has not been explored. The majority of research related to allied health and speech pathology services instead uses the dichotomy of metropolitan and non-metropolitan. Consistent with the terminology used to date, this has likewise been adopted in the current study.

A brief overview of the geographical landscape is necessary to comprehend some of the challenges faced in delivery of health services in non-metropolitan Australia. Australia is a large country. In terms of land mass, it is the sixth largest in the world (Geoscience Australia, 2005). Table 3.2 outlines the total area of Australia in comparison to a selection of other countries.
Table 3.1
Definitions for ARIA categories (Department of Health & Aged Care, 2001)

<table>
<thead>
<tr>
<th>Category</th>
<th>ARIA Score</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highly accessible</td>
<td>0 – 1.84</td>
<td>Relatively unrestricted access to a wide range of goods and services and opportunities for social interaction</td>
</tr>
<tr>
<td>Accessible</td>
<td>&gt;1.84 – 3.51</td>
<td>Some restriction to accessibility of some goods, services, and opportunities for social interaction</td>
</tr>
<tr>
<td>Moderately accessible</td>
<td>&gt;3.51 – 5.80</td>
<td>Significantly restricted accessibility of goods, services, and opportunities for social interaction</td>
</tr>
<tr>
<td>Remote</td>
<td>&gt;5.80 – 9.08</td>
<td>Very restricted accessibility of goods, services, and opportunities for social interaction</td>
</tr>
<tr>
<td>Very remote</td>
<td>&gt;9.08 – 12</td>
<td>Very little accessibility of goods, services, and opportunities for social interaction</td>
</tr>
</tbody>
</table>

Table 3.2
Total area and population comparisons of Australia and selected countries.
(Data from Geoscience Australia, 2005; www.ga.gov.au, 2008)

<table>
<thead>
<tr>
<th>COUNTRY</th>
<th>TOTAL AREA (km²)</th>
<th>POPULATION</th>
<th>POPULATION DENSITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>7,617,930</td>
<td>19,913,144</td>
<td>2.5 persons per km²</td>
</tr>
<tr>
<td>Canada</td>
<td>9,093,507</td>
<td>35,507,874</td>
<td>3 persons per km²</td>
</tr>
<tr>
<td>United States</td>
<td>9,161,923</td>
<td>293,027,571</td>
<td>29 persons per km²</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>241,590</td>
<td>60,270,708</td>
<td>244 persons per km²</td>
</tr>
<tr>
<td>Japan</td>
<td>374,744</td>
<td>127,333,002</td>
<td>336 persons per km²</td>
</tr>
</tbody>
</table>

Although the physical size of Australia is significant, only 6.55% (498,974 km²) is considered arable land (Geoscience Australia, 2005). Even more important than considerations of overall landmass, the data in Table 3.2 highlight the low population density in Australia compared with the other countries listed. This population density is even more striking when considered in the context of population distribution. Figure 3.1 illustrates the population distribution for the two most populated states in Australia, NSW and Victoria. This figure also distinguishes the metropolitan areas (outlined in black) within these states, as well as the Australian Capital Territory (ACT). This figure illustrates the dispersed nature of the population within these states.
Contrary to the image often portrayed in popular culture, most of Australia’s population is based in urban areas, with 68.5% of the population residing in metropolitan zones (Australian Bureau of Statistics (ABS), 2007). The majority of Australians live along the coastal areas of the country, with the eastern coast being the most highly populated. Approximately 30% of the population was reported to be residing in a rural zone and fewer than 3% living in a remote zone classification (ABS, 2007). These figures demonstrate a low population density, and a population distribution which is unevenly spread across a wide geographical area. This has significant implications for the provision of health services in some parts of Australia.

Figure 3.1 Distribution of public acute medical facilities in NSW and Victoria in relation to population distribution data from the 2006 Australian Census (2007).

This distribution of population obviously has ramifications for the distribution of health services. Figure 3.1 also illustrates the location of all public health facilities that service an acute client group in non-metropolitan NSW and Victoria. It can be seen that in NSW, the majority of facilities are located along the eastern third of the state, with progressively fewer hospitals in the western area. Similarly, the mid-eastern portion of
Victoria is seen to have a large gap in hospitals, due to the geographical feature of the Victorian Alps in this area. These gaps largely reflect population distribution in these two states, and the population distribution is in turn often related to geographical constraints, such as mountains or desert areas. These geographical constraints have implications for the nature of services provided within these areas and the accessibility of these services to the people living there.

Provision of health services in Australia is challenging. Availability and access to services in non-metropolitan areas is characterised by inequity (Gleeson, 2004; Humphreys & Rolley, 1993b). Although the availability of services is an important consideration in health policy in Australia (Humphreys & Rolley, 1993a), the dispersed population and the distances involved mean that health resources can be difficult to distribute, especially when considering the equity objective (Aday & Andersen, 1981). Although there is a commitment by national government to provide services “regardless of geographical location” (Healthy Horizons, 2002, p. 8), there is also acknowledgement that people in different locations will have differing needs (Healthy Horizons, 2002). Equity principles state that services should be provided on the basis of people’s need for them, not based on demographics or location alone (Aday & Andersen, 1981). However, it has been suggested that health service management policy supports “the rationalisation and centralisation of service delivery in larger centres to contain costs and ensure high quality.” (Hays, Veitch & Evans, 2005, p. 473). This centralisation has been noted by some authors, who acknowledge that it may be the most economical way to provide high quality services to geographically dispersed populations (Humphreys & Matthews-Cowey, 1997; Townsend, Anderson & Jenner, 1988), but is not necessarily the way to provide services accessible to all (Mungall, 2005). This situation highlights the balance between finite resources and provision of high quality care in a geographically challenging nation with a low population density.

It is evident that geography is an important point of consideration when discussing the health system within the Australian context, and indeed in any country that has areas of dispersed population, such as the United States and Canada. The immense distances involved and the consequent spread of population and services contribute to the challenges faced in providing available and equitable acute clinical services in non-metropolitan areas. However, the impact of geography on speech pathology services for adults following acute stroke has not been explored, and is therefore investigated in this current study.
Availability of a non-metropolitan workforce

“Regional and remote Australians continue to be disadvantaged in their access to health professionals compared to their urban counterparts.” (Australian Government Department of Health and Ageing, 2008, p. 44)

The provision and availability of health care services is heavily reliant on its workforce. Problems with health workforce supply and distribution in Australia have been recognised (Armstrong, Gillespie, Leeder, Rubin & Russell, 2007; McLeod, 2005; National Rural Health Alliance (NRHA), 2004). It has been reported that 24% of allied health professionals provide services to the 32% of the population who reside in rural and remote areas of Australia (NRHA, 2004). Workforce has also been acknowledged by the WHO (WHO, 2006) as a significant issue on a global scale.

Much of the literature on workforce issues in Australia has focused on medical and nursing aspects (Boyce, 2008; Health Professions Council of Australia, 2005). However, there appears to be a growing awareness that issues of workforce are not restricted to these two groups, and that the allied health sector can contribute much in terms of patient care and improved outcomes (NRHA, 2004). This is a complex area, and only the major issues related to this research are noted here. Table 3.3 lists some of the issues related to the health workforce in non-metropolitan areas.³

At a systems level, the most frequently discussed issue for allied health professionals in non-metropolitan areas is recruitment and retention of staff (Productivity Commission, 2005). In a survey of health professionals undertaken by Harvey et al. (1995), staff recruitment and retention was seen by 81% of respondents as the most important unresolved health care issue in rural and remote areas. Recruitment and retention issues have been linked with decreased access to services for consumers (Australian Government Department of Health and Ageing, 2008; Humphreys, 1999). This has been a longstanding issue which has plagued providers of health services for the past 20 years.

³ It should be noted that positive aspects of non-metropolitan practice have also been reported (e.g. Eley et al., 2006; Elliot-Schmidt & Strong, 1995; Hodgson & Berry, 1993).
Table 3.3

*Examples of non-metropolitan workforce issues affecting availability of services*

<table>
<thead>
<tr>
<th>Workforce issue</th>
<th>Author/reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recruitment and retention</td>
<td>Humphreys, 1999; Hill, 1994; Hodgson &amp; Berry, 1993; O’Kane &amp; Curry, 2003</td>
</tr>
<tr>
<td>Attitude towards working in rural areas</td>
<td>Boonyawiroj et al., 1996; Gleeson, 2004; Hill, 1994; Hodgson, 1991</td>
</tr>
<tr>
<td>Professional isolation, decreased support</td>
<td>Bent, 1999; Boonyawiroj et al., 1996; Coleman et al., 1999; Elliot-Schmidt &amp; Strong, 1995; Hill, 1994; Hodgson, 1991; Mara, 1991; Strohfeldt, Andersen &amp; Hocken, 1989</td>
</tr>
<tr>
<td>Burnout</td>
<td>Duckett, 2007, NRHA, 2004</td>
</tr>
<tr>
<td>Servicing large area and/or large caseload</td>
<td>Battye &amp; Taggart, 2003; Bent, 1999; Chezik et al., 1989; Grimmer &amp; Bowman, 1998; Hill, 1994; Hodgson, 1991; Humphreys &amp; Rolley, 1991; O’Kane &amp; Curry, 2003;</td>
</tr>
<tr>
<td>Difficulties in accessing professional development and maintaining skills</td>
<td>Anderson &amp; Craig, 1993; Bent, 1999; Coleman et al., 1999; Elliot-Schmidt &amp; Strong, 1995; Ferguson &amp; Sheard, 1995; Hill, 1994; Hodgson, 1991; Strohfeldt et al., 1989</td>
</tr>
<tr>
<td>Reduced resources and specialised equipment</td>
<td>Bent, 1999; Chezik et al., 1989; Coleman et al., 1999; Elliot-Schmidt &amp; Strong, 1995</td>
</tr>
<tr>
<td>Less experienced clinicians likely to work in sole positions</td>
<td>Hodgson, 1991; Hodgson &amp; Berry, 1993; O’Kane &amp; Curry, 2003</td>
</tr>
</tbody>
</table>

The reasons for ongoing challenges in this area are noted to be complex and multifactorial. Many environmental factors have been identified as contributing to this problem (Health Professions Council of Australia, 2005; Hodgson & Berry, 1993; McLeod, 2005). Decreased clinical support and networks, limited resources, challenges in service delivery, a large amount of outreach work, an ageing workforce and reduced
professional development opportunities are just some that have been highlighted in the literature (Battye & Taggart, 2003; Eley et al., 2006; Harvey et al., 1994; Hodgson & Berry, 1993; O’Reilly, 2002). Further exacerbating these factors, it has been noted that new graduates and younger clinicians are often employed as sole practitioners (Hodgson & Berry, 1993; O’Kane & Curry, 2003). O’Kane and Curry (2003) also noted that an uneven spread of allied health resources meant that some rural and remote clinicians could be servicing up to 50% more clients than their metropolitan counterparts in some parts of Australia. This has been supported by several authors (Battye & Taggart, 2003; Bent, 1999; Hodgson, 1991). This, combined with the other factors, has the potential to result in an over-worked and stressed workforce, leading to burnout (NRHA, 2004). Duckett (2007) noted that this was a vicious circle, in that the perception of an overworked and stressed workforce then made the area less attractive, leading to further issues in supply.

Overall, the costs of workforce issues to the availability of services are significant. Decreased access, unmet need, reduced quality of outcomes and increased costs in providing alternative services are all potential outcomes of workforce issues (Duckett, 2007). This is in addition to the personal costs faced by the professionals themselves. These factors all have the potential to impact upon the provision of speech pathology services in non-metropolitan areas to patients following acute stroke.

Availability of a speech pathology workforce

Speech pathology as a profession was introduced to Australia in 1931 (McDougall, 2006), and, compared to professions such as medicine and nursing is therefore a relatively new discipline. A workforce survey undertaken by Speech Pathology Australia in 2003 reported 3244 members (Lambier & Atherton, 2003). Over the period 1996-2001 there was a 22% increase in the speech pathology workforce (O’Kane & Curry, 2003).

O’Kane and Curry (2003) reported that at the 2001 census, 28% of the Australian speech pathology workforce were located in rural and remote practice. Data from Speech Pathology Australia (Lambier & Atherton, 2003) reported that fewer than 15% of speech pathologists worked in areas rated other than “highly accessible” by the

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4 Membership of this organisation is voluntary, and nation-wide registration of speech pathologists is currently not compulsory. This number is therefore likely to under-represent the numbers of practising clinicians in Australia.
ARIA classification system. One possible reason for this disparity in numbers is lower numbers of rural and remote clinicians joining Speech Pathology Australia, the membership of which served as participants for Lambier and Atherton’s data. Despite this disparity, these data are still important to consider. Table 3.4 shows a detailed breakdown of speech pathologist distribution by ARIA classification based on data collected by Speech Pathology Australia (Lambier & Atherton, 2003). This shows that the majority of clinicians were practising in highly accessible areas such as metropolitan areas and large regional centres. Data regarding the direct comparison of speech pathologists to population ratios were not obtainable. However, based on a comparison with general Australian population distribution data it is possible that some inequity in speech pathology service distribution might exist.

Table 3.4
Percentage of practising Speech Pathology Australia members working within each category of the ARIA classification system (Adapted from Lambier & Atherton, 2003)

<table>
<thead>
<tr>
<th>Work locality</th>
<th>% of practising speech pathologists (main job n=652)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highly accessible</td>
<td>84.0</td>
</tr>
<tr>
<td>Accessible</td>
<td>10.7</td>
</tr>
<tr>
<td>Moderately accessible</td>
<td>3.1</td>
</tr>
<tr>
<td>Remote</td>
<td>0.8</td>
</tr>
<tr>
<td>Very remote</td>
<td>0.0</td>
</tr>
<tr>
<td>Unable to classify</td>
<td>1.4</td>
</tr>
</tbody>
</table>

In the workforce survey by Speech Pathology Australia 21% of respondents worked within the acute sector as part of their employment (Lambier & Atherton, 2003). In Britain, a retrospective review of speech pathology referrals over a 10 year period by Enderby and Petheram (2002) highlighted the increasing occurrence of dysphagia-related cases within the speech pathology caseload. Their study showed that the dysphagia-related caseload accounted for fewer than 1% of clients seen across 11 British services in 1987, but had increased to 20.6% of clients seen in 1997. In a survey of managers of speech pathology services for adults in the United Kingdom, Code and Heron (2003) reported that nearly 53% of clinician time was spent on the provision of dysphagia services. Similarly, increases in dysphagia as a portion of caseload have also been noted in the United States (ASHA, 2000, 2001) and Australia (Speech Pathology
Australia, 2004). These shifts in caseload focus highlight the changing nature of the profession and what is expected clinically of a speech pathology service. This increased focus on dysphagia has implications for the resources required to meet this demand. Byles (2005) predicted that the importance of speech and swallowing disorders at a population level would become an increasing issue in light of the ageing population and would have a subsequent impact on the health system. These data have potential ramifications for the number of speech pathologists required to meet this demand, as well as to continue to service other components of the speech pathology caseload.

Although the literature has noted this increase in dysphagia-related caseload it does not provide a breakdown of speech pathology services for acute patients in metropolitan and non-metropolitan areas. Very little is known about speech pathology services in non-metropolitan areas generally. In an American study investigating the utilisation of speech pathology services in stroke patients, it was found that patients in urban hospitals were on average two times more likely (OR=1.99) to receive speech pathology services than patients in rural hospitals (Fridriksson, Frank & Vesselinov, 2005). Read and Levy (2005) reported that in a study of a metropolitan versus four regional Queensland hospitals, differences in patient care were observed for a range of assessments following acute stroke. They noted that patients treated at smaller hospitals were less likely to have a swallowing assessment or involvement by allied health professionals.

An Australian study focusing on paediatric speech pathology services highlighted issues of inequity in rural NSW (Wilson et al., 2002). This study reported that local, frequent speech pathology services were not always available, and that some clients experienced significant barriers to accessing speech pathology services. Furthermore, it was also found that for clients who were receiving service, the quality may have been compromised. Although this study focused on an outpatient paediatric population, it raises questions about how these findings might apply to other aspects of speech pathology services in non-metropolitan Australia, and indeed, in non-metropolitan areas in other countries.

To the researcher’s knowledge, information on speech pathology services for acute patients following stroke in non-metropolitan areas of Australia is lacking. Evidence of inequity in speech pathology services for the paediatric population (Wilson et al., 2002) raises the possibility of similar issues for speech pathology services to patients with dysphagia following acute stroke. Issues related to speech pathologist
availability and demographics are therefore considered in this study in order to understand dysphagia service provision in this area.

- **Service delivery in non-metropolitan areas**

The evidence surrounding geographical factors, population distribution and workforce issues presented in this chapter highlights the many obstacles faced when providing services in non-metropolitan areas. In light of these ongoing issues, and in an attempt to meet some of the challenges encountered in providing accessible services in non-metropolitan areas, attention has been turned to service delivery options. Work practices and service delivery in non-metropolitan areas have been acknowledged to be different from metropolitan areas (Bishop, 1996; Elliott-Schmidt & Strong, 1995; Hodgson & Berry, 1993; Lazarus, Page & Barcome, 1984). In light of these differences, metropolitan models may not be appropriate for non-metropolitan settings. This is due to a number of characteristics, which are summarised in Table 3.5. Although the data presented here are approximately 15 years old, the issues presented remain relevant in the provision of health services today, and the use of these data highlights the limited amount of research undertaken more recently in this area.

Table 3.5

*Issues affecting non-metropolitan service provision (Hodgson & Berry, 1993)*

- greater variety of tasks to be performed
- more time required to prepare for, assess and treat individual clients (due to diversity in presenting conditions and ages)
- large travel distances due to geographical spread of services (for individuals to access a service and for clinicians to provide outreach services)
- time spent on travel and provision of outreach services
- additional administrative load
- lack of specialist services
- problems with role definition

To address some of the issues encountered when providing services in non-metropolitan areas, allied health professionals have developed a number of service delivery methods that are used in non-metropolitan practice (Hodgson & Berry, 1993).
These are listed in Table 3.6. The use and appropriateness of these methods in the assessment and management of patients with dysphagia following acute stroke is unknown. The focus of the small amount of work undertaken in this area has been on outpatient and community-based services.

Table 3.6
Service delivery methods used in non-metropolitan areas as described by allied health professionals (Hodgson & Berry, 1993)

<table>
<thead>
<tr>
<th>Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>consultancy models</td>
</tr>
<tr>
<td>designing programs for others to carry out</td>
</tr>
<tr>
<td>reliance on other professionals to follow up clients</td>
</tr>
<tr>
<td>delegation of tasks</td>
</tr>
<tr>
<td>emphasis on patient self management</td>
</tr>
<tr>
<td>telephone consultation</td>
</tr>
<tr>
<td>“one off” visits for assessment and intervention strategies</td>
</tr>
<tr>
<td>improvisation with fewer resources and use of less specialised equipment</td>
</tr>
<tr>
<td>health promotion activities</td>
</tr>
</tbody>
</table>

Bishop (1996) noted that service delivery options as described in the literature could be grouped into four broad types: community development, consultancy, specialist allied health outreach and traditional models of service delivery. These options are now be discussed briefly in relation to both the allied health literature and inpatient speech pathology services. The use of telehealth is also considered. Other service delivery options mentioned in the rural health literature include travel assistance schemes and community transport. These are aimed towards individuals accessing outpatient appointments. As patients with dysphagia following acute stroke would be located in a hospital setting they are unlikely to have to travel independently to access treatment. This section focuses on an overview of service delivery options that are appropriate within this inpatient context.

5 It is noted that some of the methods employed in service delivery may not be unique to non-metropolitan settings, and may also be used in other settings when traditional methods are not viable or appropriate (Hodgson & Hornsby, 1996).
Traditional Models of Service Delivery

In a “traditional” service set-up, the clinician was based at a single site and clients attended appointments at the speech pathology clinic. In the case of acute hospital services, this would be akin to the speech pathologist visiting the wards on a regular basis to undertake assessment and management of new referrals and existing clients, as well as to liaise with other relevant staff members. This is the option most referred to within the dysphagia literature.

Community Development and Consultancy

For the purposes of this overview these two options are grouped together as they both involve the use of other personnel in undertaking services (Bishop, 1996). They can involve health promotion and raising awareness of the usefulness of allied health, to subsequently increase demand and establish services (Bishop, 1996). They can also involve the training of local workers (such as allied health assistants, nursing staff, teachers and caregivers) to carry out prescribed programs. This has been discussed in the paediatric speech pathology literature (e.g. Chezik, Pratt, Stewart & Deal, 1989; Coleman et al., 1999), as well as in the adult disability literature and aged care literature with regard to dysphagia management (e.g. Chadwick, Jolliffe, Goldbart, & Burton, 2006; Kohler, 1991). The training of other professionals to undertake dysphagia screening could also be argued to belong in this category (e.g. Magnus, 2001; Nicastro, 1996).

Allied Health Outreach

Provision of an outreach service involves the clinician travelling from a base site to outlying sites to provide direct treatment (Humphreys, Matthews-Cowey & Rolley, 1996). This could be on a regular or irregular basis. Hodgson and Berry (1993) reported that in their survey of allied health professionals, outreach services were provided by 42.9% of provincial (regional-based) clinicians and 60.98% of small rural area clinicians. No separate data were provided for speech pathology. It has also been noted that allied health professionals were more likely than any other professional group to provide outreach services and to practise in more than one site (PRHCIT, 1995).
A “hub and spoke” concept of service delivery has been suggested as a standard option for delivery allied health services to small towns (NSW Ministerial Advisory Committee on Health Services in Smaller Towns, 2000). This means that a clinician or clinical service is based at one site (usually a regional centre) and provides outreach services from this hub to smaller towns (“spokes”). Several problems have been identified regarding the provision of these services. The most obvious is the travel and the significant demands it places on both the service and the individual clinicians providing it. Although clinicians have suggested that outreach sites should not be greater than one hour’s travel from the base site (Hodgson & Berry, 1993), anecdotally this is not the case. Outreach can be very time consuming, and visits are often challenging to organise and maintain at an adequate frequency (Hodgson & Hornsby, 1996). They are also often undertaken at the expense of the base service caseload (Hodgson & Hornsby, 1996). Conversely, when the base service is short-staffed, the outreach service is often the first to miss out (Gleeson, 2004).

If outreach is to be provided, then it must offer as good a quality of care as a traditional service/fixed facility (Humphreys, 1991), consistent with the equity objective presented earlier in this chapter. However, in some contexts, resourcing and limited equipment have often resulted in improvisation or going without (Hodgson & Berry, 1993). Achieving quality of care is also difficult when the obstacles of distance and travel costs are considered, as they can be significant barriers to providing quality care (Hodgson & Berry, 1993).

An impact of distance is reduced timeliness of service (Gregory, 1979). This is a matter to consider not only for initial assessment of patients with dysphagia but also in terms of organising follow up appointments and ongoing care. Difficulty responding to clients and patients in a timely manner has been noted to be a real concern to allied health professionals generally (Coleman et al., 1999; Hodgson & Berry, 1993).

Some examples of outreach services have been described for other populations (e.g. Baytte & McTaggart, 2003; Coleman et al., 1999; Lazarus, Page & Barcome, 1984), but to the author’s knowledge, there are no articles in the literature that relate directly to outreach services in non-metropolitan areas for hospital patients with dysphagia following acute stroke. In their study of allied health practice, Hodgson and Hornsby (1996) observed that there was generally no provision for acute services and crisis management in the outreach services they studied. This meant that these services
were provided on an ad hoc request basis at the expense of another service (Hodgson & Hornsby, 1996).

In Australia, the Royal Flying Doctor Service (RFDS) provides air ambulance emergency retrievals and medical care to rural and remote parts of Australia (RFDS, 2008). This service is for patients requiring admission to or transfer between acute facilities (Ambulance Service of New South Wales, 2008; Metropolitan Ambulance Service, 2008). It also provides outreach clinics with a range of medical and allied health staff. Allied health outreach provided by this service is limited, and to the researcher’s knowledge does not involve the provision of acute speech pathology services.

There is limited literature related to the provision of outreach services and the potential impact on quality of care. To the researcher’s knowledge, no literature exists related directly to the use of this service model in the assessment and management of dysphagia following stroke. This area is explored in the current study.

**Telehealth**

Telehealth has been defined as “the application of telecommunications technology to delivery of professional services at a distance by linking clinician to client, or clinician to clinician, for assessment, intervention, and/or consultation” (ASHA, 2005). It can range in complexity from a standard telephone call to videoconferencing and transmission of radiographic images. Telehealth has been described as a way to reduce inequities in service provision (e.g. ASHA, 2005; Duffy, Werven & Aronson, 1997; Jessiman, 2003; Mashima, Birkmire-Peters & Holtel, 1999; Sicotte, Lehoux, Fortier-Blanc & Leblanc, 2003; Wilson et al., 2002; Yellowleas & McCoy, 1993; ). However, this can only be achieved if the service provided is of equal quality to that which would be provided in a face-to-face format.

Little efficacy and clinical outcome research has been published in the area of telehealth for speech pathology applications (PRHCIT, 1996; Theodoros, 2008; Wilson et al., 2002). Telehealth in speech pathology has been undertaken in various forms for the past 15 years. Areas such as paediatric stuttering (e.g. Sicotte et al., 2003; Wilson, 2003), paediatric speech and language (e.g. Jessiman, 2002; McAllister, Wilson & Atkinson, in preparation) and adult speech, language and voice disorders (e.g.

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6 Telehealth is also referred to in the literature as telepractice and telemedicine.
Constantinescu, Thedoros, Russell, Ward & Wootten, 2007; Duffy et al., 1997; Helm-Estabrooks & Ramsberger, 1985; Mashima et al., 1999; Vaughn et al., 1986) have reported use of telehealth technology in various forms. However, limited research has been undertaken specifically in the area of dysphagia.

Perlman and Witthawaskul (2002) reported on the development of a remote telefluoroscopic assessment to enable videofluoroscopy to be undertaken at a distance. This allowed real-time interactive assessment via an internet-based system to improve the quality of service to those in areas without regular speech pathology input. However, although this research described the technical aspects of setting up such a tool and provided an innovative alternative for the delivery of videofluoroscopy services when access to radiology equipment existed, there has been little mention of the use of telehealth in the basic clinical bedside assessment. It is unknown whether speech pathologists in Australia utilise telehealth in this manner and how they undertake it.

Summary

This section has outlined some of the ways in which clinicians have been reported to provide services when faced with challenges in the non-metropolitan context. It is acknowledged that inequities exist in some aspects of non-metropolitan health service delivery, and that inequities in paediatric speech pathology services have been documented. Very little research has been undertaken specifically in the area of acute dysphagia service provision, and how it may be affected by the non-metropolitan context. A study of adult-related speech pathology dysphagia services is therefore warranted.

3.1.2 Quality of Care as a Factor to Consider in Equity

Dahlgren and Whitehead (1992) noted that although a service may be available, that does not mean that the quality can be assumed to be adequate. Once availability has been established, the next, but equally important, consideration in determining equity of service provision is quality.
3.1.2.1 What Constitutes Quality?

Quality of care has been described as difficult to measure (Magna & Weller, 1980), but an important component in consideration of the equity objective for health, which emphasises equal quality of care for all (Whitehead, 1990). The Australian Council on Healthcare Standards (1994) has defined quality of care as:

“The extent to which particular health services meet the desired health outcome for individuals and specific groups and are consistent with current professional knowledge and practice” (p. 63).

Quality can be considered broadly, in terms of whether the intended or desired outcomes of care have been achieved (Duckett, 2007; Frattali, 1994). In considering quality in speech pathology service provision, Frattali (1994) asserted that in addition to positive patient outcomes, aspects related to clinical and technical effectiveness, maintenance of good interpersonal relationships, and compliance with standards of practice could all contribute to defining quality care. This involves consideration of outcomes in terms of timeliness and acceptability, availability of services, tests and equipment, effectiveness, continuity and safety (Duckett, 2007; Frattali, 1994; Grimmer, 2002).

It should also be noted that quality can mean different things to different people (Frattali, 1994). Patients and clients, insurers, managers and clinicians are all likely to emphasise different aspects as important in defining quality of care (Frattali, 1994). In the current study, quality is considered from the perspective of clinical aspects of care that promote best practice.

3.1.2.2 Use of the Evidence Base and Guidelines to Achieve Quality of Care

One method of improving the technical aspects of quality of care provided to patients is through the use of evidence-based practice (Sackett, Straus, Richardson, Rosenberg & Hayes, 2000). Worrall and Bennett (2001) defined evidence-based practice as “a process that informs clinical decision making” (p. 11). It aims to take the clinician from basing management options on past knowledge and teachings alone, to questioning these practices by comparing them to the best evidence available (Worrall & Bennett, 2001).
Evidence-based practice originates from evidence-based medicine, which Sackett et al. (2000, p. 1) defined as the “integration of best research evidence with clinical expertise and patient values”. It is claimed that the use of evidence-based medicine results in improved quality of care and patient outcomes, although this has not been substantiated (Sackett et al., 2000). The impact of evidence-based practice in speech pathology clinical practice, education and research is also unknown (Reilly, Oates & Douglass, 2004). Best practice results when evidence-based practice is implemented in the clinical environment. Daniels (2000, p. 323) defined best practice as “defined patterns of care supported by well-grounded, peer-reviewed research”.

It has been suggested that the development and use of clinical practice guidelines and care protocols may facilitate this incorporation of current evidence into clinical care (e.g. Duckett, 2007; Grimmer, 2002; NHMRC, 1999). Clinical practice guidelines were designed to improve the quality of health care (NHMRC, 1999). Guidelines are also referred to as clinical pathways, algorithms, protocols and practice policies, and have become an important part of clinical practice over the past 15–20 years (NHMRC, 1999).

In the Australian clinical health care environment, the phrase “policies and procedures” is used to describe documentation of systems both within departments and at an organisational level that provide guidance on aspects related to organisational and clinical functions. The aim of these documents is to promote quality care. Rao (2001, p. 318) described “policy” as a broad statement about an activity which conveyed “the mission, philosophy and goals of a given program, department or organisation”. A “procedure” outlined how a policy would be implemented, and was usually detailed in the steps needed to complete the process (Rao, 2001). Due to these different purposes, policies tend to be long-term in nature. Conversely, procedures should be updated regularly, to reflect changes in practice, equipment, staffing and other variables that may affect patient care (Rao, 2001).

Guidelines, policies and procedures are expected to be based on the best possible evidence available (NHMRC, 1999), and require regular, systematic review (Rao, 2001). As such, they provide a definition of the expectations and standards of performance required in specified clinical situations (Rao, 2001; Rizzo & Trueau, 1994).

The use of checklists and clinical pathways has been associated with improved process and quality of care. Wolff, Taylor and McCabe (2004) reported that the
introduction of a clinical pathway program with checklists for stroke resulted in significantly improved levels of dysphagia screening within 24 hours of admission. Read and Levy (2006) also found that the introduction of a stroke clinical pathway resulted in a significant increase in the number of swallow assessments undertaken in the first 24 hours following admission to a non-metropolitan hospital. Similarly, computerised guideline prompts have also been associated with improved process of care (Eccles & Grimshaw, 2004).

In a discussion of optimal patterns of care for patients with dysphagia following stroke, Daniels (2000) emphasised the importance of clinician knowledge and implementation of the evidence base in this population. Chapter 2 of this study presented an overview of this evidence base. It is unknown how this evidence base is implemented in non-metropolitan areas, and whether a non-metropolitan setting results in differences in service provision from that described in the literature. This matter is therefore explored in this study.

3.1.2.3 Quality of Care: An Outcome of a Unified Approach

“If guidelines are to have maximum impact they need to form one element of an integrated quality-planning and improvement strategy, rather than being developed and implemented in isolation.” (NHMRC, 1999, p. 43)

The monitoring and improvement of quality is a continual, ongoing process (e.g. Fratalli, 1994; NHMRC, 1999). For quality of care to be improved, there must be commitment at all levels: clinician, team, institution and government (Duckett, 2007). Quality of care is not just about individuals doing their job, but about the work that they undertake being supported by the structures and other professionals around them. This involves consideration of quality at a health services planning level, such as the allocation of funding discussed in Section 3.1.1.1; quality at a service level, such as systems and management support; and quality at a departmental and individual clinician level, such as the implementation of evidenced-based practice and skill development and maintenance.

It has been suggested that many Australians do not have access to good quality health care (Armstrong et al., 2007; Leeder, 2003). Some reasons proposed for this include outdated infrastructure, unevenly distributed access to technology, and variable
access to ancillary health care services, such as allied health (Leeder, 2003). Issues regarding the best use of the existing skills within the workforce and future directions have been discussed at a national strategic level (e.g. Australian Government Department of Health and Ageing, 2008; Productivity Commission, 2005; Speech Pathology Australia, 2005b). This has resulted in both support and opposition from various professional groups, as the issues surrounding delineation of roles and practice scope are contentious (Boyce, 2008; Speech Pathology Australia, 2005b, c). This opposition perhaps reflects the lack of clarity surrounding the potential impact of workforce changes on patient quality of care.

Duckett (2007) argued that the increased specialisation of the workforce has “led to increased quality of care as individual professionals have been able to develop in-depth skills across a narrower range of areas” (p. 69). However, it has also led to challenges in maintaining this level of specialised workforce, especially in non-metropolitan areas. It is acknowledged that allied health and health professionals generally in non-metropolitan areas see a broader range of client types, and consequently tend to have a broad skill base (Hodgson & Berry, 1993). This means that many non-metropolitan clinicians are referred to as “generalists”. Although not unique to non-metropolitan areas, this generalist classification does anecdotally tend to be more prevalent. The effect of this broad caseload on the quality of care delivered to the patient with acute stroke is unknown.

3.2 CONCLUSION AND IMPLICATIONS OF THE LITERATURE FOR THE CURRENT RESEARCH

When considering the equity objective and the current issues faced in rural health, it becomes apparent that challenges are likely to be encountered by clinicians in the delivery of speech pathology services to the acute stroke population in non-metropolitan areas. Dysphagia following stroke is well recognised and, as discussed in Chapter 2, guidelines have been developed that recommend a standard of care. It is unclear to what extent these guidelines can be achieved in non-metropolitan areas, and whether there are barriers inhibiting quality clinical service provision in these areas. Indeed, studies in other areas of health have demonstrated inequities in service provision to non-metropolitan areas. A study focusing on paediatric speech pathology services highlighted equity issues in rural NSW (Wilson et al., 2002), but to date, no such data
exist regarding the provision of acute adult speech pathology services. The aim of this study, therefore, is to investigate the provision of dysphagia assessment following acute stroke by speech pathologists in non-metropolitan areas.
PART TWO
METHODOLOGY

Part Two details the approach undertaken to investigate the provision of dysphagia assessment in non-metropolitan NSW and Victoria. Chapter 4 describes the rationale for the use of mixed methods for the collection and analysis of the data, and the assumptions underpinning this approach. This study was undertaken in three phases, which are initially outlined sequentially, then discussed in Chapter 5 as a whole in terms of interpretation and reading of this thesis.
CHAPTER 4
RESEARCH APPROACH AND
DATA COLLECTION

This chapter presents an overview of the study and the research approach undertaken. Information regarding informants and data collection for each of the phases is presented in detail.

4.1 AN OVERVIEW AND RATIONALE OF THE STUDY

The overall research program consisted of three phases. Several of the questions were addressed in more than one phase. The three-phase approach undertaken in this study can be likened to a set of building blocks, with each phase building on the one before it. Phase One consisted of a survey which was conducted by telephone with speech pathologists in non-metropolitan NSW and Victoria. It investigated staffing, support and services offered in relation to the acute dysphagia population. Based on the data collected in Phase One, Phase Two involved semi-structured, face-to-face interviews that were undertaken with eight clinicians from a number of non-metropolitan settings in NSW and Victoria. Phase Three of the study was a focus group involving clinicians from non-metropolitan NSW and Victoria.

Figure 4.1 illustrates the three phases of the study and their sequence, with each phase providing the basis for the subsequent one. This design reflects the exploratory nature of the research. To date, minimal investigation has been undertaken in this area, and thus a broad initial approach was indicated, as reflected in the design of Phase One. The findings of Phase One then provided the background data for a more focused investigation of the issues, undertaken in Phase Two. The findings of both these phases were then discussed and verified in the focus groups of Phase Three.
**Figure 4.1 Overview of Research Program**

- **Phase One**
  Telephone survey with a representative from every service in non-metropolitan NSW and Victoria

- **Emergence of patterns in data and development of classification system**

- **Phase Two**
  Semi-structured interview with representative from each group of classification system

- **Development of themes**

- **Phase Three**
  Teleconference focus groups discussing patterns and issues from Phases 1 and 2

- **Writing as final form of analysis**
4.2 RESEARCH QUESTIONS

This study investigated the topic of dysphagia assessment in non-metropolitan areas. Reflective of the limited current knowledge base in this area, the study was exploratory in nature, and addressed the over-arching question:

*How do clinicians describe the provision of dysphagia assessment following acute stroke in non-metropolitan NSW and Victoria?*

The selection of NSW and Victoria as the focus for data collection was made for several reasons. The researcher had experience of the health systems in both of these states, and also had a good geographical knowledge of each. The base for the research (Charles Sturt University, Albury Campus), is located on the border of these two states, and the researcher had developed contacts in both. Travel for interviews was feasible if limited to these two states. Victoria and NSW are also the most populated of the states and territories in Australia. This meant that if challenges were found in the provision of services in these states, it was possible that the findings could be considered for other parts of Australia. The limitations of the research timeframe and budget also meant that a more geographically extensive study was not possible.

The research question was investigated via a number of subsidiary questions, which are listed in Table 4.1. Table 4.1 also demonstrates the manner in which the research questions were addressed in the multiple stages of the research. A tick (✓) indicates that the research question in column one was addressed in the stage of the research indicated at the top of the corresponding column. Triangulation of the data was facilitated by addressing questions in multiple stages, within a pragmatic research approach. It should be noted that although a question may have been addressed in all three phases of the study, the manner in which this was done might have varied. For example, when investigating what happens in the absence of a speech pathologist, Phase One took a broad approach, with a large number of clinicians asked questions about the presence or absence of protocols within their service. This topic was then explored more specifically and in greater depth in Phase Two, when clinicians were asked to detail what happened when they were not available and to discuss the issues surrounding assessment of dysphagia in the absence of a speech pathologist. In Phase Three, data
related to practice in the absence of a speech pathologist were presented and clinicians were asked for comment.

In this way, both quantitative information (e.g. how many clinicians reported having a protocol for when the speech pathologist was absent) and qualitative information (e.g. what was done in the absence of a speech pathologist) was collected. The research approach and rationale are discussed further in subsequent sections.
<table>
<thead>
<tr>
<th>Research Question</th>
<th>Phase One: Telephone Survey</th>
<th>Phase Two: Semi-structured Interviews</th>
<th>Phase Three: Focus Groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>How do clinicians describe the provision of dysphagia assessment following acute stroke in non-metropolitan NSW and Victoria?</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>What is the reported context (demographics related to clinician and service) in which acute dysphagia services are provided?</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>What is the geographical distribution of acute speech pathology services?</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>What tools are utilised by speech pathologists in the non-metropolitan context to assess dysphagia and are there variations between services?</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Do barriers exist in accessing videofluoroscopy? What are the barriers and what impact does access have on managing patients with dysphagia?</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>What happens when speech pathology services are not located on site or the speech pathologist is absent?</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>What factors affect the manner in which speech pathologists provide dysphagia assessment services?</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>How does current reported practice compare with the literature in this area, and does it have any implications for future work in this area?</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>
4.3 RESEARCH APPROACH

This section details the research approach adopted in this study. When undertaking research, it is important to first consider the research paradigm within which the research will take place. A paradigm is a collection of assumptions or beliefs which guide the researcher in their approach. Choice of a paradigm, or underlying belief system, therefore has implications for the manner in which the research is undertaken.

It is acknowledged that there are two main paradigms over-arching most research: quantitative and qualitative (Minichiello, Sullivan, Greenwood & Axford, 2004). The quantitative paradigm is concerned with quantifying and testing relationships (Minichiello et al, 2004). Quantitative approaches, also referred to as positivist, are based on the assumption that reality is stable and measurable. This underlying assumption allows the researcher to then use data which are measurable, definable, and able to be analysed through the use of numbers and statistics.

In contrast to this approach is the qualitative, or interpretive, paradigm. A researcher who adopts this paradigm is interested with understanding and describing behaviours that occur in the everyday (Minichiello et al, 2004; Patton, 2002). Reality is not viewed as static, but rather as dynamic and ever-changing. This approach seeks to understand events and occurrences through peoples’ opinions, thoughts and actions.

For some researchers, these paradigms have been viewed as mutually exclusive. However, it has also been argued that the use of elements of both of these paradigms is possible, and can be advantageous when they are combined in a mixed methods approach (Creswell & Plano Clark, 2007). This was the case in the current research, which required elements of both positivist and interpretative approaches to enable consideration of the area of interest. The following sections describe and justify the rationales for this approach.

4.3.1 Why Pragmatism?

“Pragmatism ... draws on many ideas, including employing ‘what works’, using diverse approaches, and valuing both objective and subjective knowledge.” (Creswell & Plano Clark, 2007, p. 26)

The underlying approach to the study was pragmatism (Creswell & Plano Clark, 2007; Patton, 2002), which involves a choice of methodological tool based on situation, not necessarily prescribing a rigid quantitative or qualitative stance or paradigm.
It is strongly associated with real-world practice and supports a problem-centred approach (Creswell & Plano Clark, 2007). This is congruent with the intention underlying this research, to investigate which processes were occurring within the clinical setting according to clinicians working in this environment.

Tashakorri and Teddlie (2003) advocated a link between pragmatism and mixed methods research. They stated that the two are compatible for several reasons. They argued that quantitative and qualitative methods could be used within a single study, and that they should not be seen as mutually exclusive. This is because of the primary importance of the research question over both the method and its underlying philosophical assumptions. The nature of the research question should then lead to a practical approach to research and drive the choice of methods.

“Mixed methods research encourages the use of multiple worldviews or paradigms rather than the typical association of certain paradigms for quantitative researchers and others for qualitative researchers.” (Creswell & Plano Clark, 2007, p. 10)

Pragmatic considerations underpinned the approach of this study. The overarching research question for this research was based in real-world clinical practice. The research problem in this study arose from the researcher’s clinical experiences, before the method was decided upon. As is typical of a pragmatic approach (Creswell & Plano Clark, 2007), the problem led to the method of data collection best suited to obtaining the information required. Consequently, it required more than either quantitative or qualitative research alone (Brewer & Hunter, 1989). A purely quantitative approach would have provided excellent information regarding, for example, the tools clinicians were using to assess dysphagia, but would not have been able to illuminate and explore issues surrounding their use, such as why certain tools were or were not utilised. Similarly, a qualitative approach alone might have been able to elucidate in detail an individual clinician’s practice of assessing patients with dysphagia, but could not have done this within the broader framework of what the majority of clinicians were or were not doing. By utilising both in a pragmatic, mixed method approach, the weaknesses of quantitative and qualitative research as separate entities were offset, and the resulting findings were strengthened (see Brewer & Hunter, 1989; Creswell & Plano Clark, 2007; Patton, 2002).
4.3.2 The Use of Mixed Methods Research Design in Approaching This Work

Not everything that can be counted counts, and not everything that counts can be counted.

Albert Einstein

This study examined the assessment of dysphagia following acute stroke in non-metropolitan NSW and Victoria, using an explanatory mixed methods design. As described by Creswell and Plano Clark (2007), an explanatory mixed methods design involves quantitative and qualitative phases. First, quantitative data are collected and analysed. The results of this analysis then inform the second part of the study, which is qualitative in nature. The rationale for using an explanatory design is that the quantitative data analysis provides an overview of the research area. The qualitative data analysis then generates a more detailed understanding of the issues being investigated. The collection of qualitative data following a quantitative phase thus allows fuller exploration and explanation of the results of the first phase (Creswell & Plano Clark, 2007). This design was modified to incorporate two qualitative phases and one quantitative phase with some qualitative elements, rather than just one of each. The addition of a second qualitative phase in this project contributed to the overall strength of the results, because it provided additional informant input and feedback on the results of the first two phases.

The nature of the information sought required an initial broad-based approach, undertaken in the form of a telephone survey including quantitative and qualitative elements (see Section 4.3.1.2 for detail). The results from this phase then guided the more focused, qualitative approach in the Phase Two semi-structured interviews, and the discussion of findings undertaken in the focus group sessions of Phase Three. Mixed methods research facilitated the identification of patterns and trends on a larger scale, while also allowing more focused, in-depth study of the perspectives of the informants.
4.4 COLLECTION OF DATA

The process of data collection for each of the phases is now described in turn.

4.4.1 Phase One: Telephone Survey

4.4.1.1 Informants

A speech pathology representative from every non-metropolitan public health facility in NSW and Victoria offering adult inpatient speech pathology services was invited to participate in the study (see 4.3.1.2 for information describing the recruitment process). By including every service in each state, the intention was to have the broadest possible representation of services to explore availability and issues related to service provision. Where possible, a senior staff member was sought to undertake the interview.

For the purpose of this study, non-metropolitan was defined as any area outside the metropolitan regions of Sydney, Newcastle and Melbourne. At the commencement of data collection in 2003, the NSW data set was defined by the eight non-metropolitan health service areas listed on the NSW Department of Health website (www.health.nsw.gov.au): Northern Rivers, Mid North Coast, Mid West, Far West, Macquarie, Greater Murray, Southern, and New England.

This definition originally excluded the areas that made up the Greater Sydney, Illawarra and Hunter regions. At the start of 2005, the NSW Department of Health underwent a restructure of health service areas which resulted in the following areas being defined: North Coast, Greater Western, Greater Southern, and Hunter New England. Although the new area health service names were adopted for the study, areas previously considered to be metropolitan, such as Newcastle, were still not included in the current study. All other inclusions and exclusions remained the same.

Victorian non-metropolitan locations were defined as all public health services outside the boundaries of metropolitan Melbourne and its suburbs, as depicted on the Victorian Department of Human Services website (www.health.vic.gov.au). This resulted in the regions Hume, Gippsland, Grampians, Barwon South West, and Loddon Mallee all being included in the final data set.

Lists of public acute health services were obtained from each state’s government health website. When the presence or absence of a permanent or visiting speech pathology service at an individual hospital was unclear, a phone call was made...
enquiring about its services. This was then cross-checked with data collected for the region to ensure that all potential informants were invited to participate in the study.

The number of potential informants identified as eligible to participate was 84, with 52 located in NSW and 32 in Victoria. Of these, 43 (83%) were successfully recruited from NSW and 30 (94%) from Victoria. In Victoria one clinician declined participation due to staffing constraints at the time, and one could not be contacted. In NSW, eight services did not participate due to failure to return appropriate documentation or inability of the researcher after multiple attempts to contact the clinician to arrange the telephone interviews. An additional data set from NSW was unusable due to tape malfunction and consequent loss of data. This resulted in an overall response rate of 87% (73/84) for the combined states.

4.4.1.2 Procedure

- Recruitment

Potential informants were contacted by telephone to determine their interest and gain preliminary consent. An informant information sheet, consent form and geographical service area map were then posted for completion. Attached to the map were instructions asking the informant to outline the service catchment area. Informants were asked to complete and return the map and the consent form in a reply paid envelope. On receipt of the consent form, the researcher contacted the informant to arrange a suitable date and time for a telephone interview. Informants who consented verbally but did not return a signed consent form within the specified time frame of 3 weeks were contacted by phone, to ascertain whether they formally consented to participate. If they did, an appointment was made, and they were reminded to sign and return the consent form. If they did not consent, no further contact was made and that service was classified as a missing data point.

- Data collection

Data collection was undertaken from mid-2003 to the end of 2006. Research officers assisted in data collection, but the majority of phone interviews were conducted
by the candidate. Due to resource allocations, data for this project were collected simultaneously with data for a larger project being undertaken by the supervising team.

○ Telephone survey

The telephone survey consisted of a series of open and closed questions. A copy of the entire survey is provided in Appendix A. Only the questions specified here are relevant to this research. Closed questions (Qs 1–5, 12, 15–18, 20, 22–26, 28, 29, 31, 33, 35, 36, 38, 41) required yes/no responses, specific information (e.g. Question 2, regarding staff numbers) or a choice (e.g. Question 4, about caseload type classification). Open questions (Qs 6–11, 13, 14, 19, 21, 27, 30, 32, 34) asked informants to provide more explanation. The survey covered two main areas of interest: general information pertaining to aspects such as staffing, location, physical area covered and caseload type, and more specific information about the provision of dysphagia services, such as time allocated for service provision, types of assessment utilised, availability and accessibility of instrumental assessment and use of guidelines for clinical work.

The questionnaire was developed by the researcher and the primary supervisor, in consultation with two experienced researchers. The researcher developed questions related directly to this study, whilst the primary supervisor was involved in the development of questions related to paediatric practice (which did not form part of the data set for this work, but was part of another study for which data were collected simultaneously to this research). Questions were derived from a combination of clinical experience and literature regarding current accepted practice in this area (see Chapter Two). Following initial development, the questionnaire was undertaken with two experienced clinicians working within the area of dysphagia and rural health. This allowed the researcher to pilot the questionnaire format, as well as ask for clinician input regarding the content of the questionnaire and its relevance to clinical practice. The data from these two interviews were not included in the final data set. Changes were made following these interviews, including minor changes to question order and phrasing, as well as the addition of some prompts.

The first 25 telephone surveys undertaken were reviewed by the researcher and minor changes were made (e.g. changes to some of the prompts, which are acknowledged in the results section). The data from these 25 surveys formed part of the final data set. If an informant spoke about a relevant area that was not part of the initial
question set but provided information useful to the study, it was transcribed verbatim and considered in the analysis. This gave insight into areas that might be of importance but had not been initially considered. It also gave informants a chance to voice concerns related to their own service and the provision of dysphagia care. This flexibility was considered important both in the building of rapport and in the development of the study overall.

A telephone survey was chosen in preference to a self-administered written questionnaire because of the likelihood of a higher response rate and greater breadth (Minichiello et al., 2004; Portney & Watkins, 2000). Open-ended questions were used to gain the depth of information required, and the phone survey provided the opportunity to seek clarification or additional detail (Portney & Watkins, 2000). Duration of the telephone interviews ranged from approximately 30 minutes to 1 hour 15 minutes, with time being dependent on each informant’s response to verbatim questions and the range of clinical services offered within the particular service. With informants’ permission all interviews were audiotape recorded for later transcription, thus enabling the researcher to capture nuances of meaning in answers to open-ended questions, which could not be captured with on-line notation of responses (Minichiello, Aroni, Timewell & Alexander, 2000). Due to tape failure, two interviews could not be transcribed, and only data recorded by the researcher on-line could be utilised. Open-ended questions in all remaining interviews were transcribed verbatim. Data from closed questions was coded (Appendix B) and entered into Microsoft Excel spreadsheets. Data management and analysis are described in Chapter 5.

At the completion of the telephone survey, informants were asked if they would be interested in participating in future research in this area. All informants agreed to the researcher contacting them again. This list was used to identify potential informants for Phase Two of the research.

### 4.4.2 Phase Two: Semi-structured Interviews

From the Phase One data, patterns and issues arose that warranted further investigation. Semi-structured face-to-face interviews were chosen for Phase Two to enable the researcher to examine in detail issues surrounding the assessment process and the context in which it was undertaken. By interviewing representatives from a range of services, the researcher could develop greater depth and understanding of those issues.
Informants were eight speech pathologists working in public health services in non-metropolitan NSW and Victoria. Speech pathologists approached for interview were determined from the results of Phase One. The aim was to select informants who represented a range of different service types through the use of maximal purposive sampling (Minichiello, 1999). The main benefit of this form of sampling is that, through interviewing informants from a range of different settings, emerging themes can be better related to the population group as a whole (Patton, 1990). Cases were selected that were felt to be “information rich” (Patton, 2002, p. 45) and would therefore facilitate an understanding of the dysphagia assessment process. Eight out of nine potential informants approached for Phase Two were successfully recruited. One clinician, although agreeing to participate, was not interviewed due to logistical issues related to timing and travel requirements.

All informants were speech pathologists who worked with adult patients, either exclusively or as part of a mixed adult/paediatric caseload. Three of those interviewed had participated in Phase One of the research program. Three informants from NSW and two from Victoria were recruited without previously having undertaken a telephone interview. This was due to staffing changes at the relevant services. In these cases, following discussion with the new speech pathologist about the reason for the phone call, verbal and written information about the study was provided and the clinician was invited to participate. Informed consent was gained from all informants. They were given the opportunity to decline participation at several stages, including the initial phone call, following receipt and return of the written information and consent form, and when booking the time and location for the interview. All these clinicians agreed to participate verbally and in writing. An overview of the clinicians interviewed is presented in Table 4.2. The “service type” information is discussed in Chapter 6. Detailed information regarding each clinician’s background and the service in which she worked is provided in Appendix C.
Table 4.2
*Overview of Phase Two Informants*

<table>
<thead>
<tr>
<th>Clinician’s pseudonym</th>
<th>Service type</th>
<th>Current caseload</th>
<th>Years of experience</th>
<th>Time at current job</th>
<th>State</th>
<th>Approximate population of base town</th>
</tr>
</thead>
<tbody>
<tr>
<td>Julie</td>
<td>Mixed</td>
<td></td>
<td>Less than 6/12</td>
<td>Less than 6 months</td>
<td>NSW</td>
<td>12 000</td>
</tr>
<tr>
<td>Claire</td>
<td>Mixed</td>
<td></td>
<td>4</td>
<td>9 months (but previously worked there for 16 month locum)</td>
<td>NSW</td>
<td>11 500</td>
</tr>
<tr>
<td>Cassie</td>
<td>Mixed</td>
<td></td>
<td>2.5</td>
<td>2.5 years</td>
<td>VIC</td>
<td>2 600</td>
</tr>
<tr>
<td>Jane</td>
<td>Mixed (mainly paediatric)</td>
<td></td>
<td>14</td>
<td>10 years</td>
<td>VIC</td>
<td>12 000</td>
</tr>
<tr>
<td>Celia</td>
<td>Mixed (mainly adult)</td>
<td></td>
<td>6</td>
<td>1 year</td>
<td>VIC</td>
<td>12 000</td>
</tr>
<tr>
<td>Kate</td>
<td>Mixed (mainly adult)</td>
<td></td>
<td>7</td>
<td>4 years</td>
<td>VIC</td>
<td>13 000</td>
</tr>
<tr>
<td>Sue</td>
<td>Adult</td>
<td></td>
<td>4</td>
<td>7 months</td>
<td>NSW</td>
<td>15 600</td>
</tr>
<tr>
<td>Erin</td>
<td>Adult</td>
<td></td>
<td>10</td>
<td>8-9 years</td>
<td>VIC</td>
<td>83 000</td>
</tr>
</tbody>
</table>

4.4.2.2 Procedure

Data were collected by the researcher using semi-structured interviews over a period of approximately 12 months, from June 2006 until July 2007. Interviews were conducted on an individual basis, apart from one instance in which two clinicians were keen to participate in a joint interview. Interviews ranged from 1.5 to approximately 2 hours in length, and were undertaken at a time and place convenient to the informant. This resulted in six interviews being undertaken in the town in which the informant was based. Due to a pre-existing personal commitment by one of the clinicians in the town where the researcher was located, one interview was undertaken at the university. In this case, the clinician chose to meet for the interview in Albury, despite an offer of undertaking the process in her own setting.
Face-to-face interviews were considered important in facilitating the building of rapport between the interviewer and informant (Minichiello et al., 1995). Minichiello et al. (2004) noted that “without trust and rapport few people will expose to a stranger their inner thoughts” (p. 415). Discussion of the manner in which practice was undertaken by the speech pathologist within her current clinical environment had the potential to be interpreted by the informant as quite personal in nature. Without the development of rapport and trust, it was considered unlikely that informants would provide the depth of information required. Time was therefore spent before, during and after the interviews in talking and writing (via email) to the clinicians to facilitate development of this rapport and trust.

From the results of Phase One and the literature, a series of broad questions were developed into an interview protocol for the interviews (Creswell, 2003; Minichiello et al., 1995). This interview protocol was used to guide the sessions and record brief notes (Appendix D). This protocol listed the key questions explored during the interview, as well as potential probe questions. Semi-structured interviews were chosen in preference to other interview forms, such as unstructured or structured, due to the information sought. The semi-structured nature allowed use of a framework for specific questions to be investigated, while also permitting related issues to be raised by the clinicians or followed up by the interviewer (Minichiello et al., 2004). Informants were encouraged throughout the interview to discuss any additional matters that they felt were pertinent to the topic being discussed. The interviewer used techniques described by Minichiello et al. (1995) to facilitate the interview process. These included funnelling, story-telling and probing. A brief description of these techniques and examples of how they were utilised is presented in Table 4.3.

With verbal and written consent, all interviews were recorded simultaneously on audiotape and digital recording devices. Informants were instructed to stop the tape or digital recording at any stage during the interview if they wished to do so. No informant used this option. Interviews were transcribed verbatim by a research assistant from the audiotape recording (as this was the transcription equipment accessible at the time), and then checked for accuracy and corrected as necessary by the researcher using the digital recording. The use of thick description (see Table 5.1) requires accurate transcription of informants’ utterances, which can only be validated by recordings, making recording imperative to ensure scientific rigor (Minichiello et al., 1995). Informants received a
copy of the transcript for comment following the interviews. No requests for changes to the transcripts were received.

Table 4.3  
Facilitative interview techniques (adapted from Minichiello et al., 1995)

<table>
<thead>
<tr>
<th>Technique</th>
<th>Brief description</th>
<th>Examples used in current study</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Funnelling</strong></td>
<td>Starting the interview with general and broad questions, then narrowing down the focus.</td>
<td>“give me a little bit of background about the hospital and the department itself” (Interview with Cassie, p. 2)</td>
</tr>
<tr>
<td><strong>Story-telling</strong></td>
<td>Asking questions that encourage story telling.</td>
<td>“What happens when you actually get a referral for a dysphagia client up on the wards?” (Interview with Sue, p. 41) “What would happen if you were to get a referral now for a dysphagia client?” (Interview with Jane &amp; Celia, p. 39)</td>
</tr>
<tr>
<td><strong>Probing</strong></td>
<td>Using questions that encourage more detail or clarification of a previous response.</td>
<td>“So how have you gone about doing that?” (Interview with Kate, p. 70) “What’s your opinion on it?” (Interview with Sue, p. 47) “In what way?” “Why is that?” “How did you feel?” (General prompts used in most interviews)</td>
</tr>
</tbody>
</table>

4.4.3 Phase Three: Focus Groups

A focus group format was chosen to enable the researcher to present issues documented in Phases One and Two, and to allow subsequent comment and discussion. The choice of a focus group format was prompted by the one interview in Phase Two of the study which involved two clinicians instead of one. This interview highlighted to the researcher the potential benefit of a group discussion to promote sharing of ideas that could not be achieved between the researcher and a single informant. Bloor, Frankland, Thomas and Robson (2001) proposed that focus groups provide this opportunity to explore group norms and meanings that may not be articulated within an individual interview setting.
Although the focus group format is often seen as a member checking and validation exercise, Bloor et al. (2001) warned against only using it in this way. Rather, focus groups undertaken after other phases in a multi-methods study should be viewed as an opportunity “to qualify, deepen and extend the initial analysis” (p. 15). In this form, they have the additional benefit of providing informants with early feedback about the research. In the current study, this format was used to gain further insight into how informants perceived the issues raised and the manner in which they discussed them with their peers.

4.4.3.1 Informants

Informants were seven speech pathologists working in public health settings who worked with adult inpatients. Speech pathologists were approached to participate through an open invitation in the Speech Pathology Australia National Newsletter, Speak Out. They were also sought through a notice on the general notice board at the Speech Pathology Australia National Conference held in Sydney in 2007. In addition, an announcement was made following a paper presentation by the researcher at that conference.

Eleven potential informants initially expressed interest in participating in the focus groups, and written information and consent forms, along with self-addressed envelopes for the return of forms were then posted out. Nine potential informants returned the consent form prior to the focus groups. Times and dates for the groups were then negotiated by email. Due to illness on the day of the focus groups, two informants could not be involved.

The two focus groups were conducted by teleconference in July, 2007. The groups consisted of seven female speech pathologists in total. One group consisted of three informants from Victoria and the second group consisted of four informants from NSW. Although many methods texts advocate between six and eight informants for focus groups, smaller groups can also be used effectively (Bloor et al., 2001). Given that the focus groups took place via teleconferencing (see Section 4.4.3.2), recruitment of smaller sized groups was justified in this instance.

The recruitment of informants not previously directly involved with the research was considered advantageous in providing an additional point of triangulation. Only one of the informants had participated in a previous phase of this research, and five of the
services with which the informants were affiliated had been involved in Phase One. The final two services were metropolitan, and therefore had not been involved in previous phases. Both informants from these services expressed interest and had previous involvement in non-metropolitan service delivery and absence of a speech pathologist service provision, and were therefore deemed appropriate to participate in the focus groups. Interestingly, although the service in which one of these clinicians was based was classified as metropolitan by the definitions used in this study, this clinician identified it as non-metropolitan in nature. That is, this clinician was under the impression that her service was geographically located outside the metropolitan boundary.

Informants were asked to fill out a form outlining some basic demographic information (Appendix E). This was done for several reasons. Firstly, it provided the researcher with information to describe the group characteristics. Secondly, it provided the researcher with information regarding the type of service within which each informant worked, and consequently the kinds of resources that they might have at their disposal. This important information enabled the researcher to interpret comments made by informants in light of their service (Bloor et al., 2001).

All informants worked in a hospital setting. The informants’ base hospitals ranged from fewer than 50 to more than 250 beds in size. Years of experience ranged from 8 months to 18 years. Five of the seven informants had an adult caseload, and two had a mixed general caseload. The number of full time equivalent speech pathology employees of the services represented ranged from 1.0 to 15.0. Hours of specific adult work per service per week ranged from a few hours to over 200 hours. Six of the seven informants had on-site access to videofluoroscopy.

It was noted that the focus groups were under-represented by Service Type 1 and 2 clinicians, despite effort to recruit clinicians from these services. However, as two clinicians from Service Type 1 were interviewed in Phase Two, it was felt that this group was represented appropriately overall.
Table 4.4  
*Details of Focus Group Informants*

<table>
<thead>
<tr>
<th>Pseudonym</th>
<th>Focus group</th>
<th>Service type</th>
<th>State</th>
<th>Caseload type</th>
<th>Years of experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melissa</td>
<td>1</td>
<td>Metro</td>
<td>VIC</td>
<td>Adult</td>
<td>8</td>
</tr>
<tr>
<td>Lucy</td>
<td>1</td>
<td>Type 5</td>
<td>VIC</td>
<td>Adult</td>
<td>8 months</td>
</tr>
<tr>
<td>Angela</td>
<td>1</td>
<td>Type 4</td>
<td>VIC</td>
<td>Mixed</td>
<td>3.5</td>
</tr>
<tr>
<td>Lara</td>
<td>2</td>
<td>Metro</td>
<td>NSW</td>
<td>Adult</td>
<td>2</td>
</tr>
<tr>
<td>Sam</td>
<td>2</td>
<td>Type 3</td>
<td>NSW</td>
<td>Mixed</td>
<td>18</td>
</tr>
<tr>
<td>Kelly</td>
<td>2</td>
<td>Type 5</td>
<td>NSW</td>
<td>Adult</td>
<td>7</td>
</tr>
<tr>
<td>Kara</td>
<td>2</td>
<td>Type 5</td>
<td>NSW</td>
<td>Adult</td>
<td>9</td>
</tr>
</tbody>
</table>

4.4.3.2 *Procedure*

Although a single face-to-face focus group was initially planned, logistical issues arose which made this option untenable. Conflict in session and room timetabling at the Speech Pathology Australia National Conference in Sydney meant that informants who were interested in the study were unable to attend the nominated session. This resulted in the formation of two focus groups, which were conducted by teleconference on two consecutive days. It was anticipated that conducting the focus groups by teleconference would make the pool of informants broader and potentially more representative of the profession than if geographically-based groups were conducted. Teleconferencing also had the advantage of allowing informants to remain anonymous, as the location and full name of each informant were not revealed to others in the group unless they chose to share this information. The use of the teleconference system was facilitated by Telstra Conference Services, which ensured that all parties were on-line simultaneously. All call costs for informants were met by the researcher.

Each group took between 1 and 1.5 hours to complete. Each focus group was introduced by the researcher, who outlined the purpose of the group and the manner in which it would proceed. Information and requests for confidentiality were also provided. Background on the research project as a whole was presented. To facilitate the group discussion and guide the session, a copy of the handouts was emailed to informants prior to the day of the teleconferences. Copies of these handouts and are provided in Appendix F.
During the focus groups, selected themes and issues emerging from Phases One and Two were presented by the researcher, and then opened for discussion amongst the group. The group members were encouraged to raise any matters they felt related to the assessment of dysphagia in non-metropolitan areas, and any relevant experiences. The topics raised by the researcher during the groups are shown in Figure 4.2.

<table>
<thead>
<tr>
<th>Aims of Focus Group Sessions</th>
</tr>
</thead>
<tbody>
<tr>
<td>To discuss the clinical practice of assessment of dysphagia following acute stroke, and potential areas for future consideration</td>
</tr>
<tr>
<td>To obtain feedback regarding the relevance of identified issues for the focus group</td>
</tr>
<tr>
<td>Assessment of dysphagia by a speech pathologist</td>
</tr>
<tr>
<td>Competency programs</td>
</tr>
<tr>
<td>Videofluoroscopy</td>
</tr>
<tr>
<td>Assessment in the absence of a speech pathologist</td>
</tr>
<tr>
<td>Our professional role</td>
</tr>
<tr>
<td>Your main issue regarding the assessment and management of dysphagia in non-metro areas</td>
</tr>
<tr>
<td>To obtain input into the future directions clinicians working in this area feel we should be taking</td>
</tr>
</tbody>
</table>

Figure 4.2: Aims of Focus Group Sessions

These topics were all raised in the context of results from Phases One and Two of the research. This was the group informants’ opportunity to provide their opinions and feedback on the research undertaken thus far, and to comment on its applicability to their current or previous positions. It was also their opportunity to raise issues or ideas for future directions in this area of practice.

All informants within each session were encouraged to speak, and were asked directly for their opinion if the moderator (the researcher) felt it necessary (see Stewart & Shamdasani, 1990). The researcher also asked for clarification during the session when required. These strategies were employed to ensure that all informants were provided with an opportunity to discuss issues relevant to their service.

With the permission of the informants, the focus group discussions were audiotaped and digitally recorded to ensure accurate data collection and to aid the flow of the discussion process. Transcription was initially undertaken from the audiotape recording by a research assistant. It was then checked for accuracy by the researcher.
using the digital recording. The recording of the discussion was important for data analysis and presentation of results. As noted in the previous phases, the use of thick description (Minichiello et al., 1995) requires accurate transcription of informants’ utterances, which can only be validated by audio recordings, making recordings imperative for ensuring scientific rigour.

Following completion of the focus group, all informants were sent an email message thanking them for their time. They were also sent a thank you note via post, as well as reference for an article that had been discussed during the group, about which several members had expressed an interest. All informants were encouraged to contact the researcher if they wished to discuss issues any further. However, this option was not pursued by any informant.
CHAPTER 5
UNDERSTANDING THE DATA

Within a mixed methods design, data analysis must initially be undertaken in separate parts, with the quantitative section analysed from a quantitative stance and the qualitative portion analysed from a qualitative perspective (Creswell, 2003). As an explanatory design was used, the sequential nature of this study meant that the findings of Phase One guided data collection in the second and third phases (Creswell & Plano Clark, 2007). This resulted in a mixing of the data sets, with one informing the other. It should be emphasised that, as is accepted in qualitative research, data analysis was a continual and ongoing process, which, although presented separately here for purposes of clarity, was not in reality separated from other activities (Creswell, 2003). For example, the writing of the results section occurred simultaneously with the ongoing data analysis and revision.

5.1 ANALYSIS OF QUANTITATIVE DATA

Quantitative data were analysed and presented in two ways. The first was through the use of non-parametric descriptive statistics (Minichiello et al., 2004) and the second was through the use of mapping of service locations. The exploratory nature of the research questions resulted in the use of descriptive statistics to present the findings. Data were entered into Microsoft Excel spreadsheets to assist with data management. Every facility providing acute services as listed by the NSW Department of Health (www.health.nsw.gov.au) and the Victorian Department of Human Services (www.health.vic.gov.au) websites was represented on these spreadsheets. A separate spreadsheet was made for each state. A coding system was developed to facilitate data entry (Appendix B). For subsequent analysis, data were transformed using nominal scaling (codes were assigned to represent names/types of options) and internal scaling (to represent quantity) (Minichiello et al., 2004).
Reliability checks were undertaken on the entire data set entered into Excel spreadsheets by the researcher and principal supervisor. Point by point percentage agreement for coding and data entry was calculated for the data set, resulting in 96% agreement overall. Disagreements in initial coding were resolved by returning to the raw data and reaching consensus on the correct code. Consensus was reached for 100% of disagreements recorded. This data set was used for calculation of the descriptive statistics and for creation of the maps. To facilitate interpretation of the results, where appropriate, data were presented visually in the form of graphs and tables (Tashakkori & Teddlie, 1998).

Geographical mapping was undertaken to display the data in a manner which allowed visual comparisons. Mapping of data was used to facilitate representation of services in their geographical context. To undertake this process, the Spatial Analysis Unit (SPAN) at Charles Sturt University facilitated the production of all maps according to specifications of the researcher. Data entered into the Microsoft Excel spreadsheets (as described previously) were used by the SPAN team to create the maps. The data in the Excel spreadsheets were matched with a data set containing spatial data for each of these towns (S-PLUS 8.0 for Windows). An attribute-based join based on a unique identifier (autoID) was undertaken. This meant that each of the towns in the project data set was assigned a unique identification code. This coded information from the project data set could then be matched to a data base containing the latitude and longitude of each town. This enabled the project data set to be mapped geographically according to frequency and availability of the service. This process is detailed in Figure 5.1.

**Figure 5.1 Steps taken in creation of the visual maps.**

1) The geographical location data base (S-PLUS 8.0 for Windows) contained information regarding the latitude and longitude information for each town in NSW and Victoria. In this data base, a column featuring a unique identifier code (AutoID) for each town was listed. The researcher went through this list of codes and wrote the code for each town featured in the project data base. This was checked twice, with no errors noted.

2) The project data base contained information regarding which towns received a service, the frequency of services and the resources available. The researcher inserted a new column into the project data base spreadsheet, entitled “AutoID”. The codes recorded from the geographical data base (in Step 1) were then manually inserted into this column by the researcher. This column was checked twice to ensure all codes were correct, with no errors noted. This now meant that each town on the project database had a code that matched the same town on the geographical database.
3) The SPAN team then matched the geographical database (latitude and longitude data) with the project database (which towns received a service, frequency of service and resources available) for each of the towns with an acute speech pathology service. The new amalgamated data base now contained both sets of information (geographical information and project information).

4) This then allowed the SPAN team to plot the project data geographically. For example, when the researcher wanted a map that represented all towns with an on-site daily acute speech pathology service (see Chapter 6) the SPAN team used the column with frequency of service information and searched for towns with the code representing this service frequency (see code list in Appendix B). The locations of these services were then plotted on a map to show their geographic distribution, using the information contained in the latitude/longitude columns for that town.

5) This process could be repeated to plot any of the information in the project database with respect to its geographic location. These maps were used throughout the reporting of results in Phase One.

For the maps which specified travel distances, a service network analysis was undertaken using ESRI ArcMap 9.2 network analysis software. This meant that by matching the project data set with software that contained information on current road services and travel times in NSW and Victoria, a depiction of road travel distances could be calculated and represented on maps. The steps undertaken to formulate these maps were the same as described in Figure 4.3, in that the project database and the ESRI ArcMap 9.2 data base were matched by the same “AutoID” codes to enable the data to be plotted. Maps with this travel time and distance information were used in Chapter 8 to describe access to videofluoroscopy services.

5.2 ANALYSIS OF QUALITATIVE DATA

Miles and Huberman (1994) proposed a definition of qualitative analysis which involved three components: data reduction, data display and conclusion drawing and verification. This general overview proposed was adopted to guide the analysis of qualitative data within this project, as it emphasised a “continuous, iterative enterprise” (p. 12).

Data reduction refers to “the process of selecting, focusing, simplifying, abstracting and transforming the data” (Miles & Huberman, 1994, p. 10) which occurs
throughout the life of a project. In the case of the current research, this process began when the research questions were developed, the methodology was chosen and the informants were approached. It then continued as transcripts of interviews were coded and themes developed.

Data display can be defined as “an organised, compressed assembly of information that permits conclusion drawing and action” (Miles & Huberman, 1994, p. 11). Miles and Huberman stressed the importance of good displays to aid in interpretation of data, and this precept was adopted within the current study in the form of charts, tables and network (mind) maps.

Conclusion drawing and verification involve the interpretation of what things mean and the validity checks put in place to ensure trustworthiness of the data. These processes occur simultaneously with other components and are tightly interwoven with them. A discussion of the verification process is presented at the end of this section.

In addition to the overarching process of data analysis outlined above, Miles and Huberman (1994) also stressed the importance of documenting the process well. Tesch (1990) noted that due to the non-standardised nature of qualitative research, the literature does not contain “codified” procedures for the analysis of qualitative data. Rather, one must take a method and adapt it as required, being sure to document the process (Tesch, 1990). This practice was used throughout analysis of data in the current study. As the data from Phases One, Two and Three reflected different yet complementary parts of the research, so too did the ways in which the data from these phases were analysed.

5.2.1 Data From Open Ended Questions of the Telephone Survey (Phase One)

Analysis of open ended questions (Qs 6–11, 13, 14, 19, 21, 27, 30, 32, 34) from the telephone survey was undertaken manually using content analysis. It is noted that opinion varies as to what is considered content analysis. Patton (2002, p. 453) defined content analysis as the “attempt to identify core consistencies and meanings”. Liamputtong and Ezzy (2005) argued that content analysis is defined by the identification of codes prior to searching the data, as opposed to codes emerging during the coding process. There is also an emphasis in many discussions of content analysis on the specific counting of events and responses (e.g. Liamputton & Ezzy, 2005; Miles & Huberman, 1994; Patton, 2002).
In this study, Tesch’s (1990) definition was chosen to guide the analysis process:

“The basic procedure in content analysis is to design categories that are relevant to the research purpose and to sort all occurrences of relevant words or other recording units into these categories.” (p. 79)

Content analysis was chosen due to the nature of the survey data. Although some of the data categories were known prior to coding, some new categories were added to the list during the coding process, as required by the data. For example, in the section regarding restrictions to videofluoroscopy, it was known that availability of equipment and travel were likely to be issues. Through the interview process, it became apparent that the treating doctor’s consent was also a restriction for some clinicians. This resulted in “medical approval” being added to the code list. The use of content analysis also allowed analysis of the frequency of occurrence of issues arising from the data. Frequency counts of selected responses were expressed numerically and supported with the use of thick description throughout the reporting of results.

5.2.2 Data From Semi-structured Interviews and Focus Groups

Analysis of the verbatim transcriptions of the interviews and focus groups was undertaken by the researcher. Content and thematic analyses were undertaken. Thematic analysis is the process of pattern and theme identification (Patton, 2002). This is facilitated by the initial use of content analysis as already described (Patton, 2002). Thematic analysis involves a number of generally accepted processes, notably sorting, coding and organising the data (Creswell, 2003; Liamputtong & Ezzy, 2005; Miles & Huberman, 1994; Patton, 2002; Tesch, 1990).

The generic approaches described by Creswell (2003) and Tesch (1990) were combined to guide the data analysis. First, data were organised and prepared for analysis by undertaking verbatim transcription of recordings. Then a hard copy was printed and bound. This allowed the researcher to work away from the computer when reading the interviews. This was important as it allowed the researcher to better concentrate on the transcript and make notes.
Analysis of the data was undertaken in a methodical manner. Initially, transcripts were read in the order that interviews were conducted. A general sense of the information was gained through reading all the data transcripts and noting general ideas and impressions within the transcript itself and in a research journal. When all the interviews were completed, they were read through systematically. Transcripts were then worked through in the following order: Julie, Claire, Cassie, Jane and Celia, Kate, Sue, Erin. This order was maintained throughout the study to enable the researcher to ensure nothing was missed. Immersion in the data was achieved through multiple readings of each transcript. After initial familiarisation with all the transcripts, each one was read through again and initial coding was undertaken using NVivo (Bazeley & Richards, 2000), which facilitated working with large amounts of text. QSR NVivo 2.0 (www.qsrinternational.com) was initially utilised as a data management tool, facilitating the management of the large amount of text involved. This enabled the initial coding of text on-line and the identification of initial codes to be done. Although this software supports development of a project from conception to completion, this option was not chosen for the current study. Liamputtong and Ezzy (2005) noted that the use of computer packages can result in the researcher feeling distanced from the data, and this researcher indeed found this to apply to the current project. Thus a manual approach was used once initial coding was completed. Microsoft Word was used to facilitate this part of the data analysis. This allowed sections of each interview to be copied and pasted under the various categories. At this stage, the researcher began to “chunk” some data under initial codes. Codes could range from simple to complex. Some of the codes were predetermined, such as “assessment in the presence of speech pathology”, which contained sub-codes such as referral, prioritisation and clinical assessment process. Other codes arose from the data, such as “presence” and “relationships with nursing”. The initial focus when coding was to group information according to the process of dysphagia assessment. Thus, all the information related to assessment by a speech pathologist was identified and coded using NVivo. This information was then read through again and re-coded according to the steps involved in the assessment process. For example, referral process, prioritisation, response times, clinical assessment, videofluoroscopy and recommendations were all identified and data were coded for each. This provided a structure for comparing and discussing the data. A similar process was undertaken for assessment in the absence of a speech pathologist. This coding is reflected in the presentation of data in Chapter 11 and 12.
Simultaneous to this coding of “assessment process” information, the researcher also coded other areas discussed in the interviews. For example, evidence-based practice was discussed by the informants in relation to their dysphagia practice. This information was also coded initially using NVivo, and a preliminary code list was developed (Appendix G). From the preliminary list of codes, some grouping of codes was then undertaken. For example, “relationships with nursing” was combined with “relationships with medical” and “relationships with kitchen”. These three codes then were re-coded under the banner of “relationships with team”. Similarly, “department history” and “changes in service” were combined under a new code “challenging the status quo”. This process continued, with constant review and reading of the transcripts and journal notes being made. Modifications were re-checked throughout the process of copying and pasting the data into Word document files.

Mind maps were used to help make sense of the data and the relationships between codes. These were developed to test and show relations between different categories. For example, when trying to understand adherence to recommendations, the researcher used a mind map to see that the service set-up (in the form of “presence” or how often the clinician could be there) and the relationship with team members were just two of the things that might influence what happens following assessment (see Figure 13.1 for an example).

Themes began to be generated from groupings, with an example being the development of the theme “You’ve got to make an impact” over-arching the manner in which clinicians went about providing the dysphagia assessment and working within the acute setting. This theme arose as the researcher began to see patterns in the data related to the manner in which clinicians worked within their service, and how this could impact on how patients with dysphagia were cared for. Representation of these themes was undertaken through the development of models and the use of thick description, both of which were used in presentation of the results. Thick description is the use of verbatim quotations from informants to illustrate points and themes (Minichiello et al., 1999). Interpretation and discussion of themes was then undertaken and presented in the final writings.
5.3 WRITING AS THE FINAL STAGE OF DATA INTERPRETATION

Analysis and understanding of the data cannot be separated completely from the rest of the qualitative research process (Creswell, 2003). This is particularly evident when considering the writing stage of the process. It has been said that the act of writing in itself promotes clarification of themes and ideas, and promotes reflection on the research process as a whole (Dey, 1993; Piantanida & Garman, 1999). Indeed, in this study, the writing of each results section sequentially guided the manner in which literature was introduced and discussed. Writing about the data also clarified the overarching themes of “Something misses out” and “You’ve got to make an impact”. This then led to discussion surrounding the concepts of equity, evidence-based practice and the concept of teams in dysphagia care.

Writing was used in this research at various stages to clarify emerging ideas and interpretations of the data. Throughout the process, interpretation of preliminary results was undertaken through the writing of conference presentations. The process of writing these presentations facilitated thought and interpretation of results in a manner which could be communicated to others. The final writing of the thesis expanded and further developed these preliminary analyses. In order to present findings in a way that others could understand, the complex information gathered from the data as a whole needed to be broken down and explained sequentially, while simultaneously not under-representing the complexity of the non-linearity of the data and its categories. This was a challenging process which required many revisions of the overall thesis structure in order to convey these results appropriately. Visual mapping of the way in which elements of data related to each other was used to assist in this process. These conceptual maps were discussed with colleagues at various stages, and refined. The maps were then re-checked and related back to the data, to ensure that they were consistent with what informants had articulated.

5.4 ENSURING RIGOUR IN THE PROCESS OF THIS RESEARCH

This three-phase, mixed methods approach to data collection was adopted to maximise the overall strength and robustness of the results (Patton, 2002). Use of a mixed methods design facilitates triangulation of the data, to increase the credibility of findings (Patton, 2002). Triangulation has been defined as the use of “several kinds of
methods or data, including using both quantitative and qualitative approaches” (Patton, 2002, p. 247). This allows the researcher to take more than one view of a research problem in order to improve understanding of an issue from a variety of perspectives. Several types of triangulation have been identified, including data triangulation, investigator triangulation, theory triangulation and methodological triangulation (Denzin, 1978). In this study, data and methodological triangulation were utilised. Data triangulation involves the use of several different data sources to gain a variety of perspectives on an issue. In this research, this was achieved by the use of a wide range of speech pathology clinicians for the survey component (Phase One), followed by different clinicians for the subsequent interview and focus group phases. Methodological triangulation involves the use of multiple methods in a study (Denzin, 1978). This was achieved through the use of a mixed methods research design incorporating quantitative and qualitative phases.

Creswell (2003) proposed a range of additional strategies to improve the overall strength of research, including the use of thick description in the reporting of findings, clarifying bias that the researcher brings to the study, presenting discrepant information, spending a prolonged time in the field and using peer debriefing. All these strategies were employed during the course of this research project. Examples of how these strategies were employed in the current study are presented in Table 5.1.

Table 5.1

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Definition and Example of Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triangulation</td>
<td>Incorporated into the mixed method design and selection of informants. For example, data from Phase Two of the study were supported by the results of Phase Three. Data from all phases of the study were used to answer the research questions.</td>
</tr>
<tr>
<td>Thick description</td>
<td>The use of verbatim quotations to support an idea. This was used in presentation of findings to facilitate understanding of informants’ views, and extensively throughout the reporting of the results in Chapters 5 and 6.</td>
</tr>
<tr>
<td>Investigator bias</td>
<td>Background and views of the researcher were outlined at the start of study (see Chapter 1), and reflection was made on this throughout the process of analysis through the use of a journal and discussion with colleagues and supervisors.</td>
</tr>
</tbody>
</table>
Discrepant information provided: All views found during the study were provided in the results section and noted as to the frequency with which they occurred, giving readers a full view of the different perspectives.

Peer debriefing: Undertaken through the use of a focus group in the third phase. Also undertaken informally with peers locally and nationally through presentations at groups and conferences. Undertaken as part of sessions with supervisors.

For Phase One data, reliability checks of the Excel spreadsheet coding and entries were undertaken by the researcher and primary supervisor. Coding of qualitative data from the second and third phases was also checked through both supervisors and two colleagues coding several sections of text independently. These were then checked against the researcher’s codes and interpretations and discussed as a group. General consensus was noted on sections coded. This process also enabled the researcher to discuss the over-arching themes emerging from the study and obtain feedback on the authenticity of these themes related to the coded data sets.

In addition to these formal strategies employed to strengthen the validity of the results, indirect peer review of the research aims and selected results was undertaken through the presentation of papers at national conferences and regional professional meetings. To date, these presentations have been met with support from clinicians (the focus of the study) for the findings presented. Although not incorporated formally into the analysis, this acknowledgment by members of the profession is encouraging and has confirmed the themes and interpretations of the study as authentic and congruent with their experience.

5.5 ETHICAL CONDUCT OF THE RESEARCH

This study was undertaken with the ethical approval of Charles Sturt University Human Research Ethics Committee. Ethical approval was obtained separately for each phase of the research program.

The ethical issues highlighted for all three phases of the research were related to anonymity and informed consent. All informants were provided with verbal and written information regarding the study (Appendix H). Written consent was obtained from all informants in all three phases of the study. All informants were provided with the option of requesting audio-recording to be stopped at any stage. Informants were also given the opportunity to decline participation or request further clarification at any stage.
during the study. Informants at all phases of the study were informed of their right to withdraw from the study at any point without prejudice. No informant withdrew from the study at any stage.

Speech pathology is a small profession, and therefore anonymity and confidentiality were important considerations. All notes, transcripts and audio-recordings were kept secure and discussed directly with supervisors only. Research assistants involved in data entry and transcription were briefed on issues regarding confidentiality of data. All presentation of data, including this thesis, used pseudonyms. No town or service names were identified directly in the data presentation. When maps were formulated, information related only to general service characteristics was presented.

5.6 READING THE FINDINGS CHAPTERS OF THIS THESIS

Parts Three, Four and Five of this thesis present the findings of this research. Due to the mixed methods approach undertaken in the collection of data, results are presented in a range of ways, including descriptive statistics, mapping and text. This presentation reflects the diversity of data collected.

By virtue of the sampling method utilised, the results from Phase One of the study can be interpreted as broadly applicable to speech pathologists working within non-metropolitan NSW and Victoria. The findings are representative of what informants described as happening at the time of data collection.

The findings from the qualitative portions of all phases of the study are represented in the form of text and figures. Interpretation of themes arising from interviews is integrated with discussion of relevant literature throughout presentation of the findings. This approach was undertaken in keeping with recognised process in qualitative data presentation (Patton, 2002). It was felt that in the presentation of these results, a discussion of the issues within the context of the findings would facilitate better understanding of the issues and their significance in this particular context.

Throughout this thesis, findings are presented and illustrated through the use of quotations from the informants interviewed. These quotations were sourced from the verbatim transcriptions of the interviews. Quotes were selected based on their ability to represent a point.
All quotations are presented in italics and indented. To facilitate readability, minor editorial changes were made. Redundant sections of quotations were removed and replaced with an ellipsis (…); punctuation and minor grammatical corrections were made to improve readability; square brackets ([ ]) were used to insert words that might aid the flow and comprehension of the text; fillers such as “um” and “you know” were removed. All care was taken in the editing of quotations to ensure that the underlying message was not altered in any manner.

Quotes from Phase One (telephone surveys) of the study are identified by the assignment of the state they were from, a service type number (discussed in detail in Chapter 6), and a reference number. For example, a clinician from a particular Type 1 service in NSW was identified as NSW 1.4. Clinician numbers were allocated within their service type in random order. Clinicians from Phase Two (semi-structured interviews) and Phase Three were given a pseudonym.

In addition, following the pseudonym, the code (Int) or (FG), indicates whether the clinician was involved in the Phase Two interviews (Int) or the Phase Three focus groups (FG). This provides a clear reference to the origin of the quotation and the context in which it was provided. Reference to the service’s site type is also made when appropriate, but no reference is made to the specific geographic location.

5.7 CONCLUSION

Part Two has provided an overview of the methodological approach used to address this study. It defined the use of a pragmatic approach and its rationale, with reference to this study being based in real-world practice. The use of a mixed methods design was described in terms of both data collection and analysis. Ethical considerations for the study were noted. Finally, the manner in which this thesis should be read was outlined.
PART THREE

NOT ALL SERVICES ARE CREATED EQUAL: PHASE ONE RESULTS AND DISCUSSION

Part Three presents the findings and a discussion of the issues which arose from Phase One telephone surveys of the study. It provides an overview of the context in which speech pathologists in non-metropolitan NSW and Victoria provided services to adults with acute dysphagia. The development of a classification system to describe this context is discussed in relation to the implications these service types might have on the provision of clinical services in Chapter 6. Chapter 7 then presents issues raised by speech pathology clinicians during these surveys and discusses them within the classification framework. Using this background context, Chapters 8 and 9 present findings related to the assessment of dysphagia when a speech pathology service is present and when speech pathology service is not present.

In reading these findings, some important points must be noted in regards to the nature of the data. These data were collected from 73 clinicians over approximately a 2-year period. Each telephone interview was undertaken with a clinician who represented a service. As such, the data is a snap shot of that particular point in time, from the perspective of the clinician being interviewed. Some services may have undergone change since the interview, some may be the same. Resourcing is a changing dynamic, and is generally reflective of the service and not the individual clinician. The importance of these points will become more apparent when reading the findings, especially those relating to the classification system.
CHAPTER 6
DEVELOPMENT OF A CLASSIFICATION SYSTEM FOR ADULT SPEECH PATHOLOGY SERVICES IN NON-METROPOLITAN AREAS

This classification system arose from emerging patterns in the data collected from the telephone surveys in Phase One. It was noted that services could be classified according to several features, all of which could impact on the manner in which dysphagia services could be provided.

As a general rule, the greater the number of acute beds, the more speech pathology positions the service was likely to have. Similarly, more time was likely to be quarantined to provide speech pathology services to adults. The greater the number of acute beds, the more likely it was that one of the speech pathology staff was more specialised in adult service delivery. The speech pathologists might also have better access to instrumental equipment. Although these points are logical and may be anecdotally acknowledged by clinicians in the field, they have not previously been documented in any formal manner. More importantly, they have not been detailed in a way that allows reflection on their impact on service provision for acute patients with dysphagia.

6.1 DEFINITIONS OF TERMINOLOGY USED IN THE CLASSIFICATION SYSTEM

The aim of the classification system is to provide a framework for the consideration of non-metropolitan speech pathology services and the resources they have available. It is not intended to be used to discuss individual sites, nor is it a reflection on the standard of service an individual clinician is capable of providing. It should be noted that this classification system relates to overall services for adults, not just those with acute needs. This was due to difficulties expressed by some of the
clinicians in specifying the exact time spent on adult clinical service in acute versus non-acute areas. Before outlining the classification system, it is important to define and explain some key features used in the system. These are listed in Table 6.1.

Table 6.1
*Features of the Classification System*

- Full time equivalent (FTE) for adult services
- Caseload type
- Adult service time allocation (dedicated versus on request)
- Hospital size
- Videofluoroscopy on site/not on site

*Full time equivalent (FTE)* refers to the number of full time speech pathology positions in the department. A full time load is 1.0 FTE. One working day a week would therefore be equivalent to 0.2 FTE, or approximately 8 hours. A full time position has therefore been calculated at approximately 40 hours per week.

*Caseload type* refers to the kind of clients a clinician services. A mixed, or general, caseload would indicate that the individual clinician worked with both adult and paediatric clients. An adult caseload would mean that the clinician provided services to adult clients only. In non-metropolitan areas, that would likely involve providing services to both inpatients and outpatients.

*Adult service time allocation* refers to how time is set aside within a service to provide adult-related clinical services. *Dedicated time* means that time is allocated specifically for adult clinical services, and adult clients are seen within that allocation. *Partially dedicated time* means that some time is set aside and funded or allocated for adult clinical services, but perhaps because it is inadequate, when the need outstrips this time allocation, the clinician reallocates time from other clinical areas to meet the demand (and potentially vice-versa if other caseloads require more input). *On request/needs basis* services mean that no time is formally allocated to adult clinical services, and this client group is seen within the context of a mixed caseload.

*Hospital size* refers to the number of acute beds located within a particular hospital. This was classified into groupings: fewer than 50 beds, between 50 and 150 beds, between 150 and 250 beds, and more than 250 beds. These data provided an indication of the overall size of the service.
**Videofluoroscopy on site** refers to a videofluoroscopy machine being located within the hospital grounds. **Videofluoroscopy off site** refers to having to access this equipment through another hospital or facility that is not located at the same place as the acute patient.

Literature searches undertaken by the researcher were unsuccessful in finding information related to these areas and their potential effect on caseload management. However, it became evident when analysing data from the first 25 surveys that differences in these resources could result in a range of outcomes for the clinician in terms of management of the acute adult client group. From the initial data, a profile according to these criteria (Table 6.1) was developed for each service, which then allowed for inter-site comparisons. Sites were then grouped according to these features. From this analysis, five site types were defined, which encompassed data from both states (NSW and Victoria) on the one scale.

When a site did not clearly meet criteria for one of the five defined groups (i.e. it fell between the established groups), discussion and a review of the interview transcript and groupings was undertaken between the researcher and primary supervisor until consensus was obtained. The establishment of additional groups was considered in the context of the original five groups. However, it was decided that this was not warranted as the services in question could be classified appropriately within the five group system. Where ambiguity occurred in terms of time spent on service or resources, the less resourced service type classification was used as a conservative estimate. This occurred for eight services.

To date, the speech pathology literature has given minimal attention to resourcing for the adult population and the impact it may have on clinical service. This classification system is intended to provide a framework for considering work and research in this area.
6.2 A DESCRIPTION OF THE CLASSIFICATION SYSTEM

The five groupings are first presented individually, with a description of their main features. This is followed by a description of the main distinctions between the groups. Table 6.2 summarises the key differences between each group according to the features discussed in Section 6.1.

Table 6.2
Summary of the Service Type Classification System

<table>
<thead>
<tr>
<th>TYPE</th>
<th>1 (n = 28)</th>
<th>2 (n = 4)</th>
<th>3 (n = 16)</th>
<th>4 (n = 6)</th>
<th>5 (n = 19)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adult FTE</td>
<td>(\leq 0.20)</td>
<td>0.30 – 0.50</td>
<td>0.08 – 1.20</td>
<td>0.60 – 1.60</td>
<td>0.50 – 8.08</td>
</tr>
<tr>
<td>Caseload type</td>
<td>Mixed</td>
<td>Mixed</td>
<td>Mixed</td>
<td>Mixed</td>
<td>Adult</td>
</tr>
<tr>
<td>Adult service time allocation</td>
<td>Request</td>
<td>Request</td>
<td>Request Part-dedicated Dedicated</td>
<td>Part-dedicated Dedicated</td>
<td>Dedicated</td>
</tr>
<tr>
<td>Hospital (bed) size\textsuperscript{a}</td>
<td>&lt; 50</td>
<td>&lt; 50</td>
<td>50 - 150</td>
<td>50 - 250</td>
<td>50 - &gt;250</td>
</tr>
<tr>
<td>VF on-site\textsuperscript{b}</td>
<td>No</td>
<td>No</td>
<td>No/Yes (7/16)</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Number of hospitals serviced</td>
<td>1 to 6</td>
<td>2 to 4</td>
<td>1 to 4 (majority 1-2)</td>
<td>2 to 3</td>
<td>1 to 7 (majority 1-3)</td>
</tr>
</tbody>
</table>

\textsuperscript{a} See Appendix I for detailed descriptive data by Service Type
\textsuperscript{b} VF = Videofluoroscopy

6.2.1 Service Type 1

The total number of services that fitted this profile at the time of study was 28 (Vic = 6, NSW = 22) of the total 73 services. This first service type could be seen as the most restricted in terms of resources available to service an adult caseload. Most clinicians within this group were filling sole positions, and were based in a community health centre or a small base\textsuperscript{7} hospital. The base hospital was less than 50 acute beds in size. These services tended to have no access to on-site videofluoroscopy (27/28).

\textsuperscript{7} The term “base” as used in this thesis refers to the hospital at which the clinician is predominately located, regardless of the actual size of that hospital. This is distinct from the use of the term “base” as the
This meant a patient for whom videofluoroscopy was clinically indicated would have to travel to another service to have it undertaken.

Table 6.3 shows data related to full time equivalent allocations for clinicians in Service Type 1 positions. All clinicians in this group managed a mixed caseload of adults and paediatrics, inpatients and outpatients. Time spent on adult-related service delivery ranged from 4 hours per year (negligible) to 0.20 FTE. However, most Service Type 1 clinicians (27/28) interviewed reported that this adult service time was not dedicated. This meant that time was not specifically set aside to provide speech pathology services to adults. In many cases the figures reported were average estimates only.

Table 6.3
*Full time equivalent allocations – Service Type 1*

<table>
<thead>
<tr>
<th></th>
<th>Range</th>
<th>Average</th>
<th>Mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total dept FTE</td>
<td>0.10-3.00</td>
<td>1.34</td>
<td>1.00</td>
</tr>
<tr>
<td>Adult FTE</td>
<td>Neg*-0.20</td>
<td>0.09</td>
<td>0.10</td>
</tr>
<tr>
<td>Dysphagia FTE</td>
<td>Neg.-0.20</td>
<td>0.07</td>
<td>Neg.</td>
</tr>
</tbody>
</table>

*Negligible hours was calculated at 0.025 for the purposes of these calculations*

In addition to servicing their base hospital, each of these speech pathology services serviced up to six small hospitals across a wide geographic area. Six services were responsible for a base site only. All hospitals, including the base, were serviced on request only. The ability to service these hospitals when required depended on how far they were from the base, and other caseload obligations. This resulted in some hospitals being serviced on a fortnightly, monthly or 2-monthly basis only, regardless of the urgency of referral.

6.2.2 Service Type 2

Upon initial inspection, the profile for this group resembles that of Service Type 1. Speech pathology services within this group were generally staffed by sole clinicians, and were again based within a small hospital (fewer than 50 beds) or community health largest hospital within a geographic region (per previous terminology used within some parts of the Australian health setting).
setting. All clinicians within this group managed a mixed caseload. These services also provided outreach service for up to four hospitals within their catchments. None of the services within this group had on site access to videofluoroscopy.

Table 6.4 shows data related to full time equivalent allocations for clinicians in Service Type 2 positions. When considering the time spent on adult clinical services, however, differences from the first service type become apparent. Between approximately 12 and 20 working hours per week (0.30 – 0.50 FTE) were utilised for adult speech pathology services. Although still provided on a request basis, the service time approximated an even distribution between adult and paediatric services. It was therefore considered appropriate to classify these services separately because of the distribution of clinical time being significantly different from those in Service Type 1. At the time of data collection, four of the total 73 services fitted this profile (Vic = 4, NSW = 0).

Table 6.4

<table>
<thead>
<tr>
<th></th>
<th>Range</th>
<th>Average</th>
<th>Mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total dept FTE</td>
<td>0.60-4.60</td>
<td>1.80</td>
<td>1.00</td>
</tr>
<tr>
<td>Adult FTE</td>
<td>0.30-0.50</td>
<td>0.43</td>
<td>0.50</td>
</tr>
<tr>
<td>Dysphagia FTE</td>
<td>0.10-0.30</td>
<td>0.22</td>
<td>Unable to calculate*</td>
</tr>
</tbody>
</table>

*Mode was unable to be calculated due to no recurring values in this small data set.

6.2.3 Service Type 3

The third service type is best described as a transitional group. Similarly to the previous two groupings, all clinicians within these services managed a mixed caseload. The full time equivalent spent on adult-related clinical service ranged from 0.08 to 1.20 FTE (approximately 3 to 48 hours per week). The interesting thing to note about this group was the variability in resources. This variability was the reason some services that provided service for adults on request only were included in this grouping rather than Service Type 2.

This group could be seen as the transition between on-request time and partially dedicated time, as the next service type up (Service Type 4) had partially dedicated
adult service time as its minimum, along with greater amounts of time spent on adult-related clinical services. Four of the 16 services within this group still provided service on request only, 10 had partially dedicated time for adult service, and two had dedicated time. Table 6.5 shows data related to full time equivalent allocations for clinicians in Service Type 3 positions.

Table 6.5

<table>
<thead>
<tr>
<th></th>
<th>Range</th>
<th>Average</th>
<th>Mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total dept FTE</td>
<td>0.40-4.00</td>
<td>1.89</td>
<td>1.00</td>
</tr>
<tr>
<td>Adult FTE</td>
<td>0.08-1.20</td>
<td>0.45</td>
<td>0.20</td>
</tr>
<tr>
<td>Dysphagia FTE</td>
<td>0.05-0.95</td>
<td>0.31</td>
<td>0.20</td>
</tr>
</tbody>
</table>

The group was mixed in terms of the time they had set aside for adult services and whether they had access to videofluoroscopy. Those services that had videofluoroscopy on site (7/16) did not have the dedicated time set aside to provide adult clinical service. Conversely, those which had dedicated time did not have on-site access to videofluoroscopy. This co-occurred with an increase in bed numbers for the hospitals overall, with the majority of hospitals having 50 to 150 beds.

In total, 16 of the total 73 services fitted this service type profile (Vic = 7, NSW = 9).

### 6.2.4 Service Type 4

The Service Type 4 group was characterised by an increase in time spent on adult-related service provision, with between 0.60 and 1.60 full time equivalent (approximately 24 to 64 hours per week) being spent on providing services to adults. In conjunction with this increase in time there was also a shift in how the time was allocated, with four of the six services having partially dedicated time for seeing adult clients and two of the services having fully dedicated adult service time. This meant that although all clinicians within these services were still managing a mixed caseload, the time within this caseload was structured. Two services were included within this group rather than Service Type 5 because despite having significant time allocated to adult services, clinicians managed a mixed caseload, and there was no specialist adult
position within the service. Table 6.6 shows data related to full time equivalent allocations for clinicians in Service Type 4 positions.

Table 6.6

<table>
<thead>
<tr>
<th></th>
<th>Range</th>
<th>Average</th>
<th>Mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total dept FTE</td>
<td>1.60-4.00</td>
<td>2.67</td>
<td>Unable to calculate(^a)</td>
</tr>
<tr>
<td>Adult FTE</td>
<td>0.60-1.60</td>
<td>0.98</td>
<td>0.80</td>
</tr>
<tr>
<td>Dysphagia FTE</td>
<td>0.20-0.60</td>
<td>0.45</td>
<td>0.60</td>
</tr>
</tbody>
</table>

\(^a\) Mode was unable to be calculated due to no recurring values in this small data set.

All services in this group had access to videofluoroscopy on site, and the hospital size ranged from 50 to more than 250 beds. Six of the 73 services met this profile, all being in Victoria.

### 6.2.5 Service Type 5

The final service type is the most resourced and structured in terms of services for adults. Between 0.50 and 8.08 full time equivalent (approximately 20 to 320 hours per week) was formally dedicated to adult clinical service provision. For many services within this group, time was broken down specifically into acute and subacute. Table 6.7 shows data related to full time equivalent allocations for clinicians in Service Type 5 positions.

Table 6.7

<table>
<thead>
<tr>
<th></th>
<th>Range</th>
<th>Average</th>
<th>Mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total dept FTE</td>
<td>1.00-11.10</td>
<td>3.71</td>
<td>4.40</td>
</tr>
<tr>
<td>Adult FTE</td>
<td>0.50-8.08</td>
<td>2.31</td>
<td>2.00</td>
</tr>
<tr>
<td>Dysphagia FTE(^a)</td>
<td>0.50-2.30</td>
<td>1.15</td>
<td>0.50</td>
</tr>
</tbody>
</table>

\(^a\) Note 1 incomplete data set for ‘dysphagia FTE’

Caseloads were well defined within this group. This resulted in some clinicians providing only adult clinical services. Services in this group serviced larger hospitals from 50 to over 250 beds. All services in this group had videofluoroscopy on site.
(although a few of the units were out of order at the time of survey). At the time of survey, 19 services fitted this profile, with 7 in Victoria and 12 in NSW.

6.2.6 Summary of the main distinctions between the service types

The main distinctions between the service type groups can be summarised as follows:

- Type 1 services had provision for adult clinical services well below 50% of the total caseload: Type 2 services had a more even distribution of adult and paediatric service time.
- Type 2 services did not have videofluoroscopy on site. Type 3 services did in approximately 50% of the services surveyed. In conjunction with this was a shift to time being formally allocated for adult clinical services.
- Service Type 3 was a transition category. Services that had videofluoroscopy on site did not have significant amounts of dedicated adult clinical time, whilst those which had clinical time available did not have on-site videofluoroscopy.
- Service Type 4 had videofluoroscopy on site, and clinicians had more dedicated time in which to see adult cases, but they still managed a mixed caseload.
- Service Type 5 had at least one adult specialist position and dedicated time for adult service provision. They also had videofluoroscopy located on site.

From the descriptions of each group within the classification system described above, it is evident that a pattern of resourcing existed within non-metropolitan NSW and Victoria for speech pathology services for adults. These resources ranged from Service Type 1, which functioned on minimal resourcing in terms of time and equipment, through to Service Type 5, which as a group was better resourced in relation to time, equipment and ability to specialise. This continuum is also a likely reflection on general clinical profiles for the hospital services in which they were located. It is logical, for example, that a small hospital of fewer than 50 beds would be unlikely to have a full time adult specialist speech pathologist. A large regional hospital with over 250 beds would be more likely to have access to a full complement of radiology services, including videofluoroscopy. Although this information itself is not new, it is the first time it has been presented in a form which allows an overview of services across two states. What makes this classification system a useful tool, however, is not
these simple comparisons of resources per se, but the manner in which these resources might influence service provision to the adult acute population. In the following section, this is discussed in relation to service availability, in terms of geographical considerations and the frequency of service.

6.3 GEOGRAPHICAL DISTRIBUTION OF THE SERVICE TYPES

Geographical distribution was discussed in the literature review in Chapter 3 as an important consideration in establishing the availability of a service. This section presents the geographical location of each service featured in the classification system outlined at the start of this chapter.

The physical distribution of each speech pathology service providing acute adult clinical services in NSW and Victoria according to the service type classification system can be seen in Figure 6.1. This map features the base site as identified during the interview. It does not feature any of the outreach sites to which services may be provided. It should be noted that the map features missing data points. These points (represented in the map by a ‘X’) are sites at which the researcher was aware that a speech pathology acute service existed, but for reasons identified in Section 4.4.1.1 was unable to interview a service provider. To give the reader a picture of potential service availability it was important to acknowledge their presence of these services.

The most striking observation initially is the large gaps in any form of speech pathology service in the mid-west section of NSW and the north west and far north east sections of Victoria. As discussed in the literature review in Chapter 3, these gaps reflect population distribution in these areas. In the far north east of Victoria, for example, much of the land is mountainous and therefore sparsely inhabited. Similarly, in western NSW, significant expanses of desert and non-arable land result in a decreased population spread across this area.

Although this distribution of services has some relationship to the distribution of population generally, it also raises some points for consideration. Firstly, if an individual has a stroke and requires admission to hospital, the distances to be travelled to access a facility are often significant. This is partially offset by the acute medical retrieval systems as discussed in Chapter 3, such as the Royal Flying Doctor Service. However, it should be noted that not all patients who have a stroke are transferred to a large regional or metropolitan service. The distribution also has implications for
clinicians working in these areas. If outreach is provided from their base service to small outlying hospitals, the challenges of travel and time become important considerations in the frequency and timeliness of the service. If an instrumental assessment such as videofluoroscopy is required, it may also be difficult to arrange from a logistical perspective. The issue of restrictions in access to videofluoroscopy is discussed in more depth in Chapter 8.

![Figure 6.1. Speech Pathology Services in Non-metropolitan NSW and Victoria by Service Type](image)

Figure 6.1. Speech Pathology Services in Non-metropolitan NSW and Victoria by Service Type

From the map depicted in Figure 6.1 the distribution of services generally is also significant, in terms of the service type classifications and the associated underlying resources. It can be seen that NSW acute speech pathology services in non-metropolitan areas were predominantly Service Type 1 classifications (22 services) versus other
service type classifications (20 services for combined Service Types 3 and 5\(^8\)). Victoria demonstrated a more even distribution of Service Types 1 to 4, and therefore resources, across the state. The majority of Service Type 5, for Victoria, were clustered around the centre corridor of the state. The implication of the predominance of Service Type 1 resourcing for NSW is the consequent small amount of time given to adult services generally, and the access to instrumental and specialist speech pathology services when required. This is applicable to both the inpatient acute caseload and the outpatient caseload generally, and has implications for the equitable availability of services to the adult population requiring speech pathology input in these areas.

6.4 FREQUENCY OF SPEECH PATHOLOGY SERVICES TO ACUTE HOSPITALS IN NON-METROPOLITAN NSW AND VICTORIA

Following identification of hospitals within their service catchment area, informants were asked how frequently an adult acute service was provided at their base and any outreach sites. Outreach in this study was defined as any site that a clinician visited on behalf of their service (Humphreys et al., 1996). This could be on a regular or irregular basis. A service to both the base site and outreach site was defined in terms of its frequency. This resulted in the categories listed in Table 6.8 and explained below.

A daily service was one that was provided on a regular, daily basis, at least 5 days a week. The service did not have to be located at the hospital, but needed to be available daily if the need arose. Between daily and weekly meant that a client might not be able to receive service every weekday, but they could receive service more than once a week. A weekly service was one that was provided only once a week, with no flexibility for more frequent service. Between weekly and fortnightly meant that a hospital received service up to once a fortnight. Between fortnightly and monthly meant a visiting service around once to twice a month. Needs basis was a service that visited that hospital only if a request was made: there were no regular scheduled visits. How often this could be undertaken and in what time frame depended on other caseload commitments and individual client need. Unserviced or unstaffed meant that a hospital that provided acute medical services did not currently have a speech pathologist employed (due to recruitment difficulties) and/or did not have a designated visiting

\(^8\) Service Type 2 and Service Type 4 did not feature in NSW, as no services met the criteria for these groups.
speech pathology service. Effectively, this resulted in an absence of speech pathology services for acute patients.9

Table 6.8
Number of hospitals presented by frequency of adult clinical speech pathology services in NSW and Victoria

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Victoria</th>
<th>NSW</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily</td>
<td>24</td>
<td>21</td>
<td>43</td>
</tr>
<tr>
<td>Between daily and weekly</td>
<td>4</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Weekly</td>
<td>11</td>
<td>1</td>
<td>12</td>
</tr>
<tr>
<td>Between weekly and fortnightly</td>
<td>3</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Between fortnightly and monthly</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Needs basis</td>
<td>31</td>
<td>68</td>
<td>99</td>
</tr>
<tr>
<td>Unserviced or unstaffed</td>
<td>17</td>
<td>30</td>
<td>47</td>
</tr>
<tr>
<td>Missing data</td>
<td>4</td>
<td>24</td>
<td>28</td>
</tr>
</tbody>
</table>

The map in Figure 6.2 depicts the frequency of speech pathology services for adults to each acute medical hospital within NSW and Victoria. It is notable that in NSW most of the service was on request (Service Type 1) and there were few reported regular visiting services of any other frequency: acute speech pathology services occurred daily, on a needs basis or not at all. There were also often large distances between services that received a daily speech pathology service and services that received other levels of service. This had implications for patients who required a daily service. If they required such a level of service, they would have to be transferred to a hospital that might be distant from their home base. Alternatively, if they remained in the less resourced service, they would not receive this level of care despite their clinical need. This is illustrated even more strikingly in Figure 6.3, where service delivery frequency is condensed and presented as a dichotomy in terms of hospitals receiving a daily service and those which did not.

9 It was also likely to result in no speech pathology services for any client group, although some small towns might have a visiting paediatric service. Paediatric and adult outpatient data were collected simultaneously as part of another study.
For many of the clinicians interviewed, needs basis services were reported as one-off or short term (2-3 sessions) cover that was sporadic in nature and was requested only in the presence of an acute inpatient in a facility. This request was made by a medical officer (often a general practitioner working as a visiting medical officer) or a nursing staff member. Therefore, if awareness of the need for a speech pathology service was limited, it was possible that a request would not be instigated.
As reported in Table 6.8, both states featured a number of hospitals with acute medical beds that did not receive any form of speech pathology acute service (NSW = 30, Vic = 17). Patients who were admitted to these hospitals, therefore, received no speech pathology intervention unless they were transferred to another service. It is unknown, therefore, what occurred in terms of care for patients requiring dysphagia assessment and management within these facilities.

These differences in service frequency and consequent availability may be at least partially attributable to the different allocations of resources, with each state being responsible for determining the types and levels of service to each hospital facility (Department of Health and Aged Care, 1999; NRHA, 2004). Workforce data have illustrated that there are inequities between services across regions, states and territories.
(NRHA, 2004). In addition, there is also very little correlation between allied health availability and population size and need (NRHA, 2004).

This uneven distribution of services in terms of frequency has implications for how clinicians were able to practice clinically. The dysphagia literature, as presented in Chapter 2, recommends that assessment following stroke be made within a certain timeframe (e.g. within 24 hours of admission). It also suggests that frequent and regular follow up is required in the acute phase to decrease the likelihood of adverse medical outcomes. In the first week following an acute stroke, this can result in need for a daily review. In light of the data presented here, one must question how this could be logistically undertaken within the current service arrangements. Issues regarding timeliness of services, especially in the context of travel and other caseload commitments, must be taken into consideration. The data presented in Table 6.8 highlight that of the 240 hospitals identified as providing an acute medical service, only 43 (18%) were reported to receive a daily speech pathology service for adults with acute dysphagia. This finding strongly suggests that provision of dysphagia services in these areas was at high risk of not meeting current best practice guidelines.

It is evident, then, that the issues highlighted here in terms of geographical distribution and frequency of service provision have the potential to impact substantially on the manner in which patients with dysphagia following acute stroke could be managed within some non-metropolitan areas of NSW and Victoria. These data demonstrate potential inequitable distribution and therefore inequitable availability of speech pathology services to adults with acute dysphagia.
A range of issues arose from the patterns defined in the service type classification system. These issues were identified through content and thematic analysis of responses to open ended questions contained in the telephone surveys (see Section 5.2.1). These issues provide some background in understanding the context in which clinicians provided clinical services to adult patients with acute dysphagia. Issues raised by clinicians in these interviews can be discussed in terms of several broad interrelated categories: caseload distribution and management, professional issues, distance and unmet need. For each of the different service type groups, these issues manifested in different ways and were a reflection of the underlying service arrangements. In this chapter these issues are presented using quotations from clinicians to illustrate similarities and disparities between the service type groups, as applicable.

7.1 CASELOAD DISTRIBUTION AND MANAGEMENT

Issues arose for all service types in the way a caseload was managed, but the degree of balancing required and what was affected varied according to the service type. The amount of time to spend on each part of a caseload and whether that time would be allocated on a regular basis had the potential to affect service delivery. All clinicians interviewed, regardless of the kind of service in which they worked, had to make decisions on a daily basis regarding prioritisation of clients and caseload management. The impact of these decisions, however, differed in the extent to which they affected other aspects of the caseload and the speech pathologists themselves.

The findings showed that the majority of speech pathologists in non-metropolitan NSW and Victoria managed a mixed caseload. Only 26% (19/73) of services in this study had a dedicated adult clinical position. These figures were consistent with comments made by clinicians in Service Types 1, 2 and some in Service Type 3, who reported that clinical time was often not officially designated to adult service provision. This led to provision of a service “on request”. This meant that unless a service was requested for a specific adult client, no adult-related work would be
undertaken. Consequently, when a service was requested, other services had to be either cancelled or rescheduled to enable the clinician to see the acute patient. Within an already stretched caseload, this was acknowledged as a strain on resources. One clinician described the ongoing need to balance the caseload due to the needs basis status of adult services as the problem with a mixed caseload (NSW 3.8). This was intensified by the unpredictable and sporadic nature of acute dysphagia work. Some clinicians adopted a flexible (NSW 3.6) arrangement to see these clients, even though they recognised the compromised nature of the subsequent service. As one clinician from a Service Type 1 site noted:

_We just drop the paediatric[s when we get an adult referral. Because they’re quite spasmodic … The adults don’t receive adequate service._ (NSW 1.9)

Attempts to be flexible within an existing caseload, therefore, came at a cost. The variable nature of the work, combined with other competing caseload and outreach demands, meant that someone or something else had to miss out if an acute client was to be seen. For services providing outreach, it could mean that the acute client might not be seen that day, and might have to wait for assessment. Alternatively, it could result in outreach being rescheduled or reduced time being allocated for that day. For services that managed adult clients within the context of mixed caseloads on request, (i.e. Types 1, 2 and some 3) it could also result in paediatric outpatients being “juggled” or “dropped”. This has ethical implications which are discussed further in Chapter 14.

Some clinicians within the Type 1 services also reported using their own time out of hours to ensure that all clients were seen. Although this could alleviate the need to cancel outpatients, the burden of extra workload resulted in the clinician essentially “missing out”.

_I can be quite flexible here really. I can see them as much or as little as I need to really … I stay back for dinner every night or something like that._ (NSW 1.7)

Although clinicians seeing patients in their own time resolved the issue of patient management in the short term, this solution was unlikely to be sustainable over time, particularly if it became an expectation that this was an acceptable method of managing a caseload. Some might also argue that such activities could give the impression that the clinician and service were managing on current resources, and
therefore would make it difficult to argue for additional positions. Workload demands have been related to both clinician stress and subsequent burnout in the health (e.g. Duckett, 2007) and speech pathology (e.g. McLaughlin, Lincoln & Adamson, 2008) literature.

In Service Types 4 and 5 there was a shift in the way acute clients were managed. Because these service types had time specifically set aside for adult clinical work, cancelling paediatric clients was less of an issue. Rather, other adult clients were the ones who were juggled if necessary to fit in an acute client. The balancing of the outpatient and inpatient as well as acute versus rehabilitation demands within an adult caseload was raised by clinicians from Service Type 5. Communication assessment and management was also referred to in prioritising who would receive treatment. Within a busy hospital setting, this was often reported as secondary to dysphagia work. As a Service Type 5 clinician noted:

It’s probably more the outpatients that are missing out ... the rehab patients miss out on our time too ... [because] of how we’re prioritising. (NSW 5.11)

This comment was consistent with literature in this area, that has observed the assessment of dysphagia being at the expense of the management of communication disorders (Armstrong, 2003; Enderby & Petheram, 2002).

The use of informal and formal prioritisation systems across all service types provided the clinicians with guidance to determine and justify who to provide a service to within their busy caseload. These systems were mentioned by some Service Type 3, 4 and 5 clinicians, who used them to determine who to see within their adult load. This was in contrast to Service Type 1, 2 and some Type 3 clinicians, who spoke at a more general level of prioritising dysphagia above other clients. Regardless of the complexity and formality of the system, acute dysphagia was prioritised above other diagnoses, due to the associated medical risks. Armstrong (2003) described this as consistent with the medical model, which often resulted in clinicians “compartmentalising” different symptoms and then prioritising based on the perceived importance of each problem.

It can be seen that the effect of caseload distribution, in the form of a mixed versus an adult caseload, and having dedicated versus non-dedicated time for adult clinical services, can affect the way clinicians manage clients. As the service type moved towards being better resourced, there was a shift in the way in which acute clients were juggled within the caseload, and who else might miss out. Service Type 1,
2 and some 3 clinicians spoke of both themselves and other parts of the caseload, especially paediatric clients, missing out on services in order to provide acute cover. Similarly, Service Type 4, 5 and some Type 3 clinicians spoke of adult communication clients being prioritised below acute referrals if their dedicated time became insufficient. However, for many Type 4 and 5 clinicians, the need to do this was not as great, due to more dedicated time being allocated for adult services as part of their official caseload. It might be argued that patients with dysphagia were also at risk of missing out, as clinicians were not always able to assess and manage them when and how they chose, or be a fully functioning member of the acute team.

This situation raises concerns regarding the ethical distribution of resources in the quest for equity in service delivery. Body and McAllister (in press) noted that resource allocation was “complex and controversial”. Determining who is in greater need of speech pathology services is a difficult and, one may argue, judgement laden task. It has been observed in the literature that it is not unusual to see this inequitable service provision as clinicians attempt to prioritise patients with dysphagia over clients whose diagnosis is not medically significant, but often is significant in terms of quality of life (Threats, as commented in Body & McAllister, in press). Body and McAllister (in press) described this as “robbing Peter to pay Paul”, a practice which, as in many of the examples presented here, can lead to a number of parties, such as the clinician, other clients, the service and perhaps even the patient with acute dysphagia, missing out on some level. The implications of these allocation decisions are discussed further in Chapter 15.

7.2 DISTANCE AND SERVICING OUTLYING HOSPITALS

These caseload issues were further compounded by the difficulties of servicing across a number of sites. For many services represented in the data, the base health service was committed to providing outreach services to other sites. For some services, this could result in a clinician being responsible for up to seven smaller hospitals within the catchment (Table 7.1). This had the potential to impact upon the client with dysphagia, others in the caseload and the clinicians themselves.
Table 7.1
Number of hospitals serviced (including base)

<table>
<thead>
<tr>
<th>Number of hospitals serviced</th>
<th>Type 1</th>
<th>Type 2</th>
<th>Type 3</th>
<th>Type 4</th>
<th>Type 5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 to 6</td>
<td>2 to 4</td>
<td>1 to 4</td>
<td>2 to 3</td>
<td>1 to 7</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(majority 1 to 2)</td>
<td></td>
<td>(majority 1 to 3)</td>
</tr>
</tbody>
</table>

Geographic considerations cannot be underestimated in discussing the logistics of servicing outlying hospitals. A clinician from a Service Type 1 site said:

... it does chop a lot out of your day. One hour [travel to another hospital] is quite OK. Other speechies have to do 1.5 or 2 hours one way. (NSW 1.3)

Figure 7.1 illustrates the distances to be considered when providing acute dysphagia services. Each of the speech pathology base services is represented by a red circle, and all other hospitals providing an acute medical service are represented by a black circle. Driving distances (using real road access) is then represented by the different colours as noted in the legend. From this map, it can be seen that a number of acute facilities are more than 50 kilometres driving distance from the nearest speech pathology base service. Depending on local road conditions, this could result in travel times of approximately 30 to 45 minutes. The map also shows that a number of hospitals which have the potential to admit patients following an acute stroke are outside the 100 kilometre radius depicted in this figure.
Servicing hospitals at such distances had potential implications. Do such clinicians travel in their own time or work time (e.g. having lunch in the car)? What are their other commitments in terms of outreach? For many, it was not just the hospitals that had to be considered when providing an outreach service. Having a mixed caseload, many clinicians serviced a range of schools and community health centres in addition to the hospital work. It was then not just the needs of the base site that might be relevant, but the needs of many different client and geographical groups within the service as a whole. There was interaction, therefore, between distance, geography and caseload management. And there were implications for who would then miss out on a service in order for the speech pathologist to provide that outreach, as one clinician from a Service Type 3 site said:

*Figure 7.1 Speech pathology base services and drive distances to outreach sites*
If it ... sounded like we had to go we’d go. But what that would mean is that we’d have to cancel an outpatient, our own inpatients here ... would miss out on care that they were entitled to. (VIC 3.16)

Some clinicians also spoke about how often they might be able to see the patient with dysphagia. Determining whether the consultation might involve a one-off assessment, subsequent review and follow up sessions needed to be considered when providing any outreach dysphagia service. Flexibility was not always possible when distance and travel were involved. There was recognition that sometimes the service that could be provided was not ideal. It did not allow for follow up that the clinician felt was clinically indicated. A clinician from a Type 1 service conceded: once a fortnight isn’t ideal of course, really with the dysphagia ones (NSW 1.4).

For some clinicians this resulted in their questioning the quality of care they were able to provide to the patient with dysphagia. Distance was acknowledged to play a large role in determining the involvement the speech pathologist could have, both in the treatment of the individual client and as an active part of the treating team. A clinician from a Service Type 1 noted this pressure:

I do worry about quality of service. It just seems slap-dash that ... if [an outreach hospital has]... a stroke patient in ... we can’t work as a team... with the distance factor. (NSW 1.3)

This was seen as an issue for ongoing care. Clinicians felt that they were unable to contribute as they were not on site and able to be involved in the patient’s planning and overall care. Some felt that patients potentially suffered because of this. They also reported that understanding of dysphagia assessment and management might be limited, not only by patients but by other health professionals. This then could lead to less than optimal management of dysphagia at the wider hospital level.

Distance and geography, combined with the obligations and demands of a mixed caseload, have the potential to impact on both direct patient care and the speech pathologist’s role within the treating team. This is discussed in more detail in Chapter 14.
7.3 SKILLS AND SUPPORT

Table 7.2 summarises frequency data for the years of clinical experience attained by clinicians practising in dysphagia in this study. Although the question prompted clinicians to specify their years of experience in dysphagia assessment and management, the data appeared to reflect years of experience overall. Because of this discrepancy, and the method of data collection resulting in one clinician commenting on other clinicians’ experience, these data should be interpreted with caution. Despite these limitations, however, the data showed that 47% of clinicians in this study reported between 1 to 5;11 years of experience. Thirty four percent of clinicians were reported to have less than 3 years experience. These data have implications for the skills and support clinicians may require to undertake work in the area of dysphagia.

Table 7.2

<table>
<thead>
<tr>
<th>Service Type</th>
<th>&lt; 1 year</th>
<th>≥1-2;11 years</th>
<th>3-5;11 years</th>
<th>6-9;11 years</th>
<th>10-14;11 years</th>
<th>15-19;11 years</th>
<th>≥20 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type 1</td>
<td>5</td>
<td>11</td>
<td>8</td>
<td>6</td>
<td>7</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Type 2</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Type 3</td>
<td>1</td>
<td>7</td>
<td>9</td>
<td>7</td>
<td>3</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Type 4</td>
<td>2</td>
<td>4</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Type 5</td>
<td>6</td>
<td>14</td>
<td>15</td>
<td>13</td>
<td>4</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>TOTAL</td>
<td>14</td>
<td>38</td>
<td>35</td>
<td>27</td>
<td>17</td>
<td>7</td>
<td>15</td>
</tr>
</tbody>
</table>

Many clinicians interviewed commented on the impact of their service context on support and maintenance of skills. It was generally acknowledged by clinicians from all service types that support was an important part of their practice. The manner in which clinicians discussed support and skill maintenance reflected underlying characteristics of the service types. Clinicians from Service Types 1, 2 and some Type 3 spoke about the importance of seeking support in the ongoing maintenance of their skills for managing dysphagia. Clinicians from Service Types 4 and 5 reflected on their levels of internal support and the challenges of providing support to other services.
Clinicians were asked about their department’s involvement in mentoring and supervision related to dysphagia. Table 7.3 suggests that, when comparing Type 1 services with Type 5 services, there is a notable shift in both involvement in mentoring or supervision activities, as well as differences in the type and format in which these take place. Clinicians from better resourced service types reported being more likely to access support for their dysphagia practice, through both formal and informal means. However, these data must be interpreted with caution due to possible differences in interpretation of ‘mentoring’ and ‘supervision’. Nevertheless, these data and the reasons underlying these patterns may have implications for the manner in which support is established and provided.

Table 7.3
Involvement in mentoring or supervision for dysphagia practice

<table>
<thead>
<tr>
<th>Involved in mentoring</th>
<th>Type</th>
<th>Format</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>From other hospitals</td>
<td>To other hospitals</td>
</tr>
<tr>
<td>Type 1</td>
<td>68%</td>
<td>61%</td>
</tr>
<tr>
<td>Type 2</td>
<td>75%</td>
<td>75%</td>
</tr>
<tr>
<td>Type 3</td>
<td>81%</td>
<td>63%</td>
</tr>
<tr>
<td>Type 4</td>
<td>67%</td>
<td>67%</td>
</tr>
<tr>
<td>Type 5</td>
<td>100%</td>
<td>42%</td>
</tr>
</tbody>
</table>

All figures rounded to nearest decimal place;
Note that respondents could provide more than one answer for type and format of mentoring, therefore figures do not add up to 100%.

Clinicians from Service Types 1, 2 and 3 noted the effect of managing a mixed caseload on their need and ability to seek support and maintain their skills in dysphagia. There was a feeling among these clinicians that they were good at a few things, not great at anything, a jack of all trades (NSW 1.3). The expectation to maintain knowledge and skill to assess and treat a wide range of disorders was seen by some clinicians as challenging. Keeping up with current research regarding disorders that might be seen infrequently or sporadically was difficult, especially for sole clinicians with minimal support. As a clinician with 15 months’ experience in a sole position said:
A lot of the things that I feel I’m doing with dysphagia because I’m here on my own is the same as what I would’ve learnt at uni, because I’ve got no-one else to compare my service delivery to and to say “oh well that’s how they do it, that’s interesting” and take that little bit on board. (NSW 1.6)

As dysphagia services did not form the majority of Service Type 1, 2 and 3’s clinical caseloads, many clinicians commented on the difficulties of justifying support, such as professional development, which was often expensive and time consuming to access. One might argue that the sporadic nature of acute dysphagia work made it even more important to maintain skills and seek support in this area, to comply with the code of ethics and maintain general competencies (Speech Pathology Australia, 2001, 2002, 2004). This could therefore be seen as a vicious circle, as illustrated in Figure 7.2.

![Figure 7.2 Cycle of support](image)

The challenges of keeping knowledge and skills current when you’re not exposed to it constantly (NSW 3.2) meant that some clinicians found they were not 100% comfortable or confident (NSW 3.2) in the area of dysphagia assessment and management.

For some clinicians, difficulty in maintaining skills in dysphagia assessment and management resulted in a reluctance to see patients with acute dysphagia. This reluctance stemmed from a need to know that they had made the appropriate decisions (NSW 1.4). This concern regarding appropriate clinical decision making was an issue not only at the individual clinician or site level but also more broadly. When an individual clinician was not well supported, some felt the image of the profession itself
was not being supported. Several clinicians spoke of maintaining skills at an individual level being *good for the profession* (VIC 2.4).

Several clinicians from Service Types 3, 4 and 5 said that they were *lucky* to have support readily available to them through work colleagues on site. This was in contrast to sole clinicians, who needed to be proactive in seeking support from external agencies, or accessing professional development events further a field.

Several of the clinicians from Service Type 5 also spoke of a sense of obligation to provide support as part of the role of a base hospital. They saw themselves as technically and clinically in a position to provide support to smaller services that might need it. However, some felt that resources limited what they were able to offer in this area, and that this led to ad hoc support, which was more reactive than proactive. Clinicians from Service Type 5 expressed concern for sole clinicians and new graduates, recognising that:

*They’re so isolated and they’re called upon to do such a big task without close supervision … It just worries me that … a new graduate can … be expected to do so much with minimal support.* (NSW 5.9)

With data suggesting that younger and less experienced clinicians tended to work within more remote areas (NRHA, 2004), and that this group might not possess the skills required for working in rural and remote practice (Harvey et al., 1995), this concern was perhaps justified. It has been argued that it is essential for less experienced clinicians to seek support, especially given the medicolegal risks associated with dysphagia management (Dawson, Cichero & Pattie, 1996). This is also part of speech pathologists’ ethical obligations as a health professional (Speech Pathology Australia, 2000). Dawson et al. (1996) also reported the expectation of experienced clinicians to provide support in the area of dysphagia to less experienced members of the profession.

From the examples presented in this section, it is evident that clinicians from the range of service types considered support and maintenance of skill in the area of dysphagia as important to ongoing care of their patients. Clinicians managing a mixed caseload faced challenges in terms of maintenance of a broad range of skills. Some clinicians found it difficult to justify accessing support and professional development, as dysphagia work formed only a small portion of their overall caseload. However, many also recognised the importance of maintaining skills in an area that was not as frequently utilised due to the need to keep skills current. Clinicians from Service Types
4 and 5, who by nature of their service saw patients with dysphagia on a more frequent basis, were also aware of the need to maintain skills and support networks. Some clinicians from these groups acknowledged their role in provision of support to clinicians from Service Type 1, 2 and 3 who might be practising in isolation and/or be less experienced in this area. However, their ability to undertake this form of support was hindered by the constraints of their own caseload demands. Thus for the range of clinicians interviewed there were challenges faced in how this could be logistically undertaken. Accessing education has also been highlighted in the literature as a challenge for non-metropolitan clinicians (Sheppard & Mackintosh, 1998). This has implications both for practising clinicians providing services to patients with acute dysphagia and for the quality of care that they are able to provide. This is discussed further in Chapter 15.

7.4 UNMET NEED

Many clinicians commented that they felt there was a significant need for adult services, but they found it difficult to service this need. The speech pathology literature and practice generally suggests that adult speech pathology services are commonly found within metropolitan areas. In theory, a similar need for services should exist in non-metropolitan locations. This is especially true in light of demographic data which show an ageing population, with rural areas identified as ageing faster and having equal or higher proportions of residents in the older age group than metropolitan centres (AIHW, 1998; Australian Bureau of Statistics, 2007; Department of Agriculture, Fisheries and Forestry, 2008). There has been a shift in what speech pathology services are expected to provide, but not necessarily a shift in what resources are available to meet this changing profile. For example, one clinician said:

*Its shifting considerably … We used to say that we were predominantly a paediatric service, we’re getting more and more adult referrals … Its sort of creeping up to be half [of the caseload] …. We are supposed to provide an acute service to adults in the hospital but they require more and more stuff and they don’t always go away to rehab, so they require some sort of service from us. (NSW 3.9)*

Clinicians from the full range of service types reported that their current ability to service the adult acute population was not ideal. For service types such as Types 1, 2 and 3, the competing demands of other parts of their caseload meant that they could not
always attend to their patients on a daily basis, despite this being identified by them as the ideal level of service. As mentioned previously, this also affected how clinicians from these service types were able to contribute to overall management. They felt that by having an increased presence, not only would the patient benefit, but also the overall management of dysphagia would be improved. This included being a part of the treating team and having a formal presence within the acute hospital setting.

We need ... a full time adult speech pathologist ... ‘cause we only run in and run out and it’s just not the ideal service. It really should be more multi-disciplinary. (NSW 3.9)

Clinicians from Service Types 4 and 5 also reported being unable to provide service to patients with the frequency they would like. For these services, however, the frequency of service that they could currently provide was already at a daily level for patients with acute dysphagia. They reported that, ideally, they would like to see clients with dysphagia more than once a day, and on weekends too. As one clinician from a Type 5 service said: it’s not enough for just once [daily] really (NSW 5.9).

Although all clinicians interviewed identified at least one part of their overall service that could benefit from increased resourcing, it was not always dysphagia that was the main area of concern. One clinician was adamant that we’re quite well covered down here ... for dysphagia (VIC 1.27), despite reporting not having clinical hours set aside for this purpose. The reasons for this perception were unclear and not pursued.

That comment was in the minority, as most clinicians interviewed, even those in Service Type 5, could identify a component of their adult clinical load that they felt could be better resourced. An area that many identified as missing out was that of communication disorders (dysphasia, dysarthria and dyspraxia), especially within the acute sector. This was due to the prioritisation of finite resources to dysphagia in the acute medical system. For some clinicians, especially those from Service Type 1, just the lack of resources generally meant limiting the service that they were able to offer. This resulted in one clinician describing what she was able to provide as a bandaid service (NSW 1.7).

The pressures associated with waiting lists were related back to the increase in population and to an increased ageing population. For many of the smaller services, this was compounded by the need to provide outreach services over and above the caseload at the base site. Frustration was expressed, as speech pathologists suspected or knew
that there were people in their communities requiring input, but felt that they were restricted in what their services could offer these patients due to other caseload commitments and management expectations.

*I think dysphagia misses a bit... and really... I’d hate to think. Because ... 10 to 15 assessments a year ... It’s not many considering I’m covering a fair area. (VIC 1.24)*

Such statements demonstrated that clinicians in this study were aware of the issues surrounding under-referral. They also highlighted the consequent issue of underservicing for adults requiring speech pathology services. Many of the clinicians interviewed in this study represented the only speech pathology service available over a wide geographical area. There seemed to be a reluctance from a logistical perspective to “open the floodgates”: If clinicians promoted the service, they would be unable to meet the increased demands, which therefore made them reluctant to promote it: a vicious circle!

*The adult load here is very low, and I don’t think its because there’s not a need for it ... Because the paediatric load is full on, I really haven’t sold things as much as I would if I had the time to. (NSW 3.2)*

This raises a dilemma: Are clinicians better off providing an ad hoc, limited service to many, or focusing on more restricted client group to provide a “better” service, which in itself raises questions of ethics and equity. And what level of service is considered appropriate? This question is beyond the scope of this study, but is a matter that the profession needs to consider in the future. Unmet need is discussed further in Chapter 15.

7.5 SUMMARY OF IMPLICATIONS OF THE CLASSIFICATION SYSTEM AND THE UNDERLYING ISSUES

This section has provided an overview of the context of non-metropolitan speech pathology services for adult acute patients in NSW and Victoria. From the telephone surveys, the broad areas of caseload management, distance and travel, skills and support and unmet need were highlighted as issues perceived to underlie the manner in which clinicians were able to provide acute dysphagia services. The manner
in which these issues affected service provision was related to the service type classification presented in Chapter 6.

Information about a service’s adult-related resources is useful, as it allows consideration of how clinicians could provide service to clients with dysphagia. These factors can influence how much time clinicians can allocate to the establishment of a service; how much time they can set aside to undertake professional development; what tools they have at their disposal; and how they are able to utilise these tools. The classification system also allows an indication of how clinicians from different service types were able to physically assess patients with dysphagia and participate in their overall management as part of a multidisciplinary team. The clinical impact of these issues is explored in the following sections related to dysphagia assessment.
CHAPTER 8
DEPARTMENTAL RESOURCING OF ACUTE SPEECH PATHOLOGY SERVICES

Chapters 6 and 7 presented results related to resourcing at a departmental level for speech pathology services for adult patients. It was proposed that these resources could result in differences in service availability and frequency, and could impact on areas such as skills maintenance and support, unmet need and caseload management. This chapter provides information related to the manner in which these underlying resource issues as identified in the classification system impacted on direct clinical processes for patients with acute dysphagia. Section 8.1 presents information about how dysphagia services were structured and the tools utilised in assessment. This section focuses on the processes undertaken by a speech pathologist when assessing a patient with dysphagia. Section 8.2 then describes what occurred when a speech pathologist was unable to provide an assessment within a 24 hour period. It discusses the use of policies to manage this scenario and some of the challenges that the clinicians identified within their services.

8.1 PROVISION OF DYSPHAGIA SERVICES BY A SPEECH PATHOLOGIST

This section presents the findings regarding current reported practice of components of the assessment process undertaken by a speech pathologist. Clinicians were asked about the availability of written guidelines (in the form of policies, procedures and assessment pro formas or guides), response times and the use of non-instrumental and instrumental assessment tools. Restrictions encountered in accessing videofluoroscopy are also presented and discussed. The aims of this section are to provide an overview of dysphagia service resources available within departments and to examine them in relation to the service type classification described in Chapter 6.

8.1.1 Policies and Procedures in the Clinical Setting

Clinicians were asked whether their department had written information such as a policy or procedure in place for use when undertaking dysphagia practice. A policy
was defined as a broad written statement outlining what was expected to happen in the event of a dysphagia referral. For example, assessment within a certain timeframe would be part of a policy document, as would a statement regarding whether all stroke patients were to be routinely assessed for dysphagia. A procedure was an outline of steps to be undertaken as part of the assessment process. It might include a written proforma or a checklist of things to assess within the dysphagia session.\textsuperscript{10}

Overall, 71\% of clinicians reported that their service had a written dysphagia document within their department (see Table 8.1). Many of the clinicians interviewed did not distinguish between policy and procedure. Therefore the results reflect the presence of a general document and/or the presence of a specific written assessment proforma or clinical checklist.

Table 8.1  

| Presence of written policies and procedures by service type |
|---------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| Type 1                          | Type 2    | Type 3    | Type 4    | Type 5    | Total     |
| Presence of written policies and procedures | (21/28)   | (2/4)     | (8/16)    | (3/6)     | (18/19)   | (52/73)   |
| 75\%                            | 50\%      | 50\%      | 50\%      | 95\%      | 71\%      |

Service Type 5 clinicians were more likely to have established policies and procedures than any other group. Many of the clinicians in Service Types 1, 2 and 3 raised the challenge of finding time to develop written policies and procedures for the dysphagia component of their services. The busy nature of mixed caseloads, combined with adult services often comprising less than half the total caseload, meant that justifying time for this area could be difficult. Indeed, several services (10/73) referred to a document that was in the process of being written at the time of interview. The majority of these were from Service Types 1, 2 and 3. Interestingly, clinicians from Service Type 4 did not raise this as an issue, despite the low percentage of services which had a document in place. However, this may be a reflection of the small number of services classified within this group.

Some services reported the implementation of area-wide policies and procedures to assist in the development of policy and procedure documents. This allowed a sharing of the resources needed to develop such documents, and also provided some

\textsuperscript{10} Definitions were provided in Section 3.1.2.
consistency across services in the same organisational area. This strategy was utilised most commonly by NSW Service Type 1.

For some services, however, whether a written protocol existed within their department or not was a source of ambiguity. One clinician said: *I'm sure there is policies and procedures. It's not an active one, I haven’t seen it* (NSW 5.1).

If some clinicians are not aware of the existence of these tools, then they cannot be using them within the clinical setting. This leads to questions regarding the perceived clinical utility of such documents. Professional codes of ethics (such as that of Speech Pathology Australia (2000)) state that it is the clinician’s responsibility to the employer to ensure that contribution is made to the development of policies and procedures. The rationale underpinning this statement is that such documents play an integral role in defining the standard which clinicians should strive to achieve in their practice. The question then becomes one of the role of these documents, their importance to practice, and the implication of having or not having them for the care of patients with dysphagia. This is discussed at the end of this chapter.

### 8.1.2 Response Times and Timeliness of Assessment

Clinicians were asked whether their service had in place a specified response time for the assessment of acute dysphagia. It is acknowledged in the literature, including the National Stroke Clinical Guidelines (2007) that, at a minimum, a screening assessment should be undertaken within 24 hours of admission following acute stroke. For many clinicians interviewed, the presence of such guidelines within their own service was uncertain. For example, one clinician said, *I’m pretty sure it’s 24 hours* (NSW 1.11). This and similar comments suggested that, as with the comments in Section 8.1.1, even if such guidelines were in place within services, the clinicians themselves were not always familiar with them. Despite this, there was general consensus that 24 to 48 hours was the ideal response time for acute dysphagia referrals (Table 8.2). For Service Types 4 and 5 especially, this timeframe was reported to be achievable most of the time. However, the ability to meet this response time did not exist for all services. For Service Types 1, 2 and sometimes 3, although they might recognise the need for such response times, this ideal was not always possible, even when the patient was located at their base. Instead, the aim for many services was not so much to meet these defined response times, but to get there *as soon as possible*.
(VIC 2.3), and within a *reasonable timeframe* (VIC 3.14), given their other caseload demands and restrictions.

Table 8.2

<table>
<thead>
<tr>
<th></th>
<th>24 hours</th>
<th>48 hours</th>
<th>72 hours</th>
<th>Within one week</th>
<th>ASAP</th>
<th>Did not specify</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type 1</td>
<td>14</td>
<td>6</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Type 2</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Type 3</td>
<td>10</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Type 4</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Type 5</td>
<td>16</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>TOTALS</td>
<td>47</td>
<td>10</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>12</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>(64%)</th>
<th>(14%)</th>
<th>(0%)</th>
<th>(3%)</th>
<th>(3%)</th>
<th>(16%)</th>
</tr>
</thead>
</table>

A major consideration in the establishment of set response times was the matter of staffing and the availability of clinicians to undertake the assessment. For many of the Service Types 1, 2 and 3, management of both multiple caseloads and multiple sites made achievement of the 24 to 48 hour ideal challenging.

Challenges to meeting set response times were even more pronounced for outreach sites that might be serviced on a less frequent or on request basis. For example, a clinician from a Type 5 site said: *We can’t [always] get [to our outreach site] promptly ... because going to [that outreach site] to see one patient [takes] half a day’s time so it’s a long response* (NSW 5.11). Finding time within the regular caseload to visit the site, combined with travelling to get there, made meeting such response times untenable. Similarly, the challenge of weekends and public holidays was another cause of delay in being able to see acute clients within specified response times. For example: *We don’t have cover on [public holidays or weekends]. The other thing also is when we go on annual leave or sick leave, there’s no cover then either* (NSW 3.2). No weekend cover was available at any of the services involved in this study, and public holiday cover was generally absent.

Some clinicians spoke of ways in which they attempted to manage these obstacles. To meet response times or get to the patient as soon as possible, clinicians reported prioritising acute dysphagia referrals within their caseload demands.
For example, one clinician said and with ... the dysphagia ones, there’s a priority so they’re seen as soon as possible (NSW 1.18). This was particularly commented on by clinicians from Service Types 1, 2 and 3, who did not necessarily have time set aside to receive and attend to dysphagia referrals.

For some services, the interpretation of meeting the response time was not always that the speech pathologist assessed the patient within that timeframe. The 24 hour response meant that contact was to be made within this time, but this did not always imply that a full assessment by a speech pathologist was expected. For example, a clinician from a Type 4 site said:

We always make contact within 24 hours with the nursing staff... and do a phone consult. But we don’t always get there within 24 hours. ... Today we got a referral for someone out at CC and that’s a Wednesday clinic. We [will] try to get out there between now and then, but sometimes it’s just not possible. (VIC 4.5)

This example shows that although the clinician could not attend within the ideal timeframe, there was still acknowledgement within the service guidelines that 24 hours was considered best practice. There was another group of clinicians in a similar situation where this ideal of assessment within 24 hours of referral was also not possible. However, this group took a different approach. Consideration of lack of cover dictated the ideal response time as defined in the service’s policies and procedures. This meant that because some clinicians knew that it was not possible to see a patient for the 48 to 72 hours over a weekend, they developed their response time service policy based on their ability to service, rather than what was considered best practice. This was illustrated by a Service Type 1 clinician, who said: It’s [the policy] supposed to be 24 [hours] but they’ve put it up to 48 [hours] to account for weekends and public holidays (NSW 1.2).

These differing approaches to managing the issue of compliance with response times demonstrated two forms of compromise. In the first approach, a compromise had been made in how the guideline was met, while still formally acknowledging best practice in this area. In the second approach, however, there was a compromise within the guideline itself as it no longer reflected best practice, but what was possible in that environment. Clinicians faced with resource limitations therefore have a choice. They can strive for what is considered best practice in this area, and acknowledge that it is sometimes not possible; or they can choose to not formally acknowledge best practice
and make their own targets based on their reality. It is argued that of these two approaches, the second entrenches compromise that is unacceptable in terms of best practice, and therefore compromises the quality and equity of service provision.

From the responses gathered, although response times were acknowledged as being important in terms of policy for acute dysphagia practice, it was evident that the reality of clinical practice did not always match what was considered best practice. This was particularly an issue for Service Types 1, 2 and 3, whose resources might affect what was possible in terms of response times. Sites that relied on speech pathology outreach services were also at a disadvantage in terms of meeting these response times for their acute dysphagia clients. This is explored further in Chapter 11.

8.1.3 Use of Non-instrumental Assessment Tools

Clinicians were asked whether an assessment proforma was utilised for clinical assessments within their service. A proforma was defined as a written document or checklist used to guide the bedside assessment process, that could take the form of a departmental or locally developed document or a published bedside assessment. Clinicians used a range of terminology to describe this tool, such as “protocol” or “guide”. Anything that was used as an assessment tool to guide the actual assessment process was therefore considered within this definition.

Table 8.3 details the different types of clinical bedside assessment tools used by service type. The most commonly reported forms of clinical assessment utilised were developed at the department level, with 48% of clinicians reporting use of this type of assessment within their service (35/73). Fifteen services reported having no written clinical bedside assessment in current use. This meant that they undertook the bedside assessment without a written checklist or form to guide the process.

The most commonly reported published clinical bedside assessment was the Parramatta Hospital Assessment of Dysphagia (Chapman, 1998), with 15 of 73 (20%) of services using this tool. The Royal Brisbane Hospital Outcome Measure (Speech Pathology Department, Royal Brisbane Hospital, 1998) and The Dysphagia Evaluation Protocol (Avery-Smith, Rosen & Dellarosa, 1997) were also mentioned by some services.11 Area-wide proformas or unpublished proformas obtained from other

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11 Some clinicians reported more than one tool being available within their department. The tool used most regularly was listed as the form utilised.
hospitals\textsuperscript{12} accounted for 7/73 responses, with nearly all of these being used in NSW Service Type 1.

Service Type 3 as a group was surprising. Half the clinicians reported that within their service, each individual clinician undertook the assessment without a written guide. The other half of this group were more structured, utilising published assessments such as the Parramatta Assessment of Dysphagia, or having a proforma developed at site level. Of the clinicians interviewed from Service Types 4 and 5, only one service from each group had no written assessment proforma in place. The majority of these service types used either a proforma developed at site level or a published assessment tool, usually the Parramatta Assessment of Dysphagia.

Table 8.3

\textit{Different forms of bedside clinical assessment used by service type}

<table>
<thead>
<tr>
<th>Service Type</th>
<th>Department's own</th>
<th>Area-wide or other hospital's unpublished proforma</th>
<th>Published</th>
<th>No written bedside assessment tool</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (n=28)</td>
<td>12</td>
<td>5</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>2 (n=4)</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>3 (n=16)</td>
<td>6</td>
<td>0</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>4 (n=6)</td>
<td>3</td>
<td>0</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>5 (n=19)</td>
<td>11</td>
<td>1</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>TOTALS (/73)</td>
<td>35 (48%)</td>
<td>7 (10%)</td>
<td>16 (22%)</td>
<td>15 (20%)</td>
</tr>
</tbody>
</table>

These differences in availability and choice of written clinical assessment proformas are difficult to explain. The higher number of services in Types 1 and 3 without any form of written clinical assessment in place might be partially explained by the fact that dysphagia formed less of their total caseload. This might then result in systems not being formalised, unlike those of Service Types 4 and 5.

One comment made frequently by informants from Service Types 1 to 3 about the choice of assessment form concerned the concepts of clinician comfort and preference in undertaking the assessment. This could be interpreted in several ways.

\textsuperscript{12} These were proformas that speech pathology staff at other hospitals had developed. Often they were from larger regional or metropolitan hospitals.
The first of these was that the clinician preferred to choose an established assessment tool with which she was comfortable. For example, a clinician from a Type 1 service said:

*I really think that you can choose … They don’t have a protocol that they say you have to use so … There’s probably a selection of 4 or 5 in the filing cabinet and you can choose which one you like.* (NSW 1.2)

This concept of comfort was reported to extend beyond the use of familiar established or published protocols, to clinicians using their own forms of assessment. Some clinicians reported that they chose to formulate their own, despite having ready access to written alternatives: *I use my own way [to] assess* (VIC 2.4) and *I would have to say that I have a procedure which I follow… I do it in my head, it’s not something that’s formally written down* (VIC 2.2). The perspective that a formal proforma was not needed could be attributed to a number of factors, including clinician experience or preference. For some clinicians, the dysphagia assessment was felt to be individual to the client, and therefore a formal proforma was not developed for the entire assessment. However, even though the assessment protocol might not be formally written down, there appeared to be an understanding that certain elements were to be included.

*For dysphagia, we’ve got set things that we have to do. Like the cranial nerve assessment, your... modified diet trials...[But] there’s no actual... protocol... that says “when these people come in this is what you have to do”.* (NSW 1.12)

In contrast to clinicians who chose not to utilise a written form of dysphagia proforma, some clinicians from the Service Type 5 group spoke of the development of the clinical assessment proforma and its formal inclusion as part of the medical record. For example: *We have our own tool that we’ve developed based on ... benchmarking with a number of other hospitals.... We do [use it] as a medical record form now ...* (VIC 5.18). This aided formalisation of the use of the form and reinforced its use as an important tool in the dysphagia assessment process, not only by the clinician undertaking the assessment, but by the service as a whole.

The differences in proformas usage evident from the data presented here raise some questions regarding practice in this area. The development of tools at an individual or area health level requires a significant investment in resources. This was an important consideration, given the limited time that some of the clinicians from Service Types 1, 2 and 3 reported being able to spend on dysphagia related services.
Some might also add that this process involved “reinventing the wheel”, something which has undoubtedly contributed to clinicians adopting tools developed by other services, which might have had more time and resources to devote to that development.

This resource-intensive process, however, was only part of the concern. A more significant concern, perhaps, was the validity and reliability of tools which were formulated at a site level, or even more significant for those developed on-line according to an individual clinician’s preferences. The notion of varying the assessment process for individual patients raises questions about the kinds of variation to which clinicians were referring. It is unknown and unclear whether they were referring to variation in what they assessed or variation in how they went about assessing it; or maybe they were referring to variations in terms of use of tools such as cervical auscultation or pulse oximetry, or how they documented assessment results in the medical record. The literature has demonstrated variation in what clinicians include and see as important in the clinical assessment (Bateman, Leslie & Drinnan, 2007; Martino et al., 2004; Mathers-Schmidt & Kurlinski, 2003; Pettigrew & O’Toole, 2007). There has been a move within the research community to formalise this assessment to aid comparison and interpretation, and ensure that the resulting tool is evidence-based, rather than based on clinician preferences. These factors all raise questions about what and how clinicians were assessing, and whether the variations in assessment also resulted in variations of care. The implications of these variations for the quality of the clinical assessment is unknown. This is discussed further in Part Four.

8.1.4 Use of Instrumental Assessment Tools

Clinicians were asked about the types of instrumental assessment tools that were used within their service, including the use of adjuncts to the clinical assessment such as cervical auscultation and pulse oximetry. The researcher asked about the use of each tool specifically, requiring a yes/no answer as to whether that tool was used. Rationales for using or not using these tools were not intentionally sought. Frequency of use was also not specified, although in hindsight this might have provided some interesting information, especially for the services that did not have access to videofluoroscopy on site.

Table 8.4 shows the percentage of usage of pulse oximetry, cervical auscultation and videofluoroscopy by service type and for the entire group. It can be seen that as the
service type moved from less to better resourced (Service Type 1 to Service Type 5),
the general trend was for an increased percentage of usage of each of the tools.
Clinicians from Service Type 5 were the most likely to utilise all of the instrumental
assessment tools. Clinicians from Service Type 1 were generally the least likely to use
them. Overall, the most utilised instrumental assessment tool was videofluoroscopy.

Caseload complexity and increased numbers of acute patients were possible
underlying factors in the utilisation of instrumental tools in the assessment of the
dysphagic patient. Service Types 4 and 5, by the nature of the larger hospitals in which
they were usually situated, potentially had more complex cases and therefore more need
to make use of all tools. They also had more adult-dedicated service time to perhaps
justify the investigation and use of these tools and become competent and confident in
that use. This was in contrast to clinicians from Service Type 1, a small number of
whom referred patients to other services if they presented with the need for more than a
standard bedside assessment: *I only use the bedside assessment and if the patient needs
further assessment, I refer to [regional hospital] (NSW 1.11).* Comments to this effect
were infrequent, however. This meant that some patients with suspected dysphagia
would not have access to any form of instrumental assessment.

Table 8.4
*Use of instrumental assessment tools by Service Type*

<table>
<thead>
<tr>
<th></th>
<th>Type 1</th>
<th>Type 2</th>
<th>Type 3</th>
<th>Type 4</th>
<th>Type 5</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pulse oximetry</strong></td>
<td>4/28 (14%)</td>
<td>¼ (25%)</td>
<td>4/16 (25%)</td>
<td>1/6 (17%)</td>
<td>11/19 (58%)</td>
<td>21/73 (29%)</td>
</tr>
<tr>
<td><strong>Cervical auscultation</strong></td>
<td>6/28 (21%)</td>
<td>0/4 (0%)</td>
<td>4/16 (25%)</td>
<td>1/6 (17%)</td>
<td>11/19 (58%)</td>
<td>22/73 (30%)</td>
</tr>
<tr>
<td><strong>Videofluoroscopy</strong></td>
<td>12/28 (43%)</td>
<td>4/4 (100%)</td>
<td>14/16 (88%)</td>
<td>6/6 (100%)</td>
<td>19/19 (100%)</td>
<td>55/73 (75%)</td>
</tr>
</tbody>
</table>

Overall, there was limited usage of pulse oximetry and cervical auscultation by
all groups except Service Type 5. Given the lower availability of videofluoroscopy, it
might be anticipated that clinicians from Service Types 1, 2 and 3 would use cervical
auscultation and pulse oximetry as a more common adjunct the their clinical
assessment. However, in light of the inconclusive evidence base presented in Chapter 2
for both these techniques, it is perhaps understandable that these instruments had not
gained more widespread use. Some clinicians reported, however, that a particular tool
was often chosen based on clinician interest, preference and experience. For example, one clinician said *I don’t [use cervical auscultation] ... I’ve only done one in-service on it, and I don’t practise it enough, I don’t feel competent enough.* (NSW 3.1 – no videofluoroscopy onsite). In contrast, another clinician said:

*One of our grade ones ... has worked at [large metro hospital] ... so is quite comfortable using pulse oximetry and has done a bit of cervical auscultation ... [but] it’s not embedded in our procedural practices.* (VIC 5.19)

Therefore, the use of equipment could reflect not just the evidence base but also preference, competence, and availability. Within departments with more than one clinician, it was therefore possible that the clinicians differed in their use of instrumental tools.

No clinicians interviewed reported current utilisation of FEES or any other form of instrumental assessment not listed in Table 8.4. Some clinicians from Service Type 5 expressed an interest in future use of FEES, but to date, it was not reported to be a part of regular clinical practice.

The data above highlighted videofluoroscopy as the most commonly used instrumental assessment tool in non-metropolitan NSW and Victoria. However, it also highlighted that, for some service types, this tool was not universally used. The literature places a significant amount of emphasis on the use of videofluoroscopy in the assessment and management of patients with dysphagia. Indeed, as discussed in Chapter 2, many researchers refer to videofluoroscopy as the gold standard in dysphagia assessment. Given this support for the use of videofluoroscopy, it is important then to understand what barriers might exist in accessing this tool for acute patients in non-metropolitan NSW and Victoria. Some of these barriers are explored and discussed in the following section.

### 8.1.4.1 Restrictions in the Access of Videofluoroscopy for Acute Patients

Clinicians in this study were asked: “Are there any restrictions regarding the access of videofluoroscopy for acute patients?”, and were given the opportunity to respond spontaneously. A list of potential restrictions to access to videofluoroscopy had been generated by the researcher, using the experiences of seven speech pathologists who had worked as clinicians in a variety of non-metropolitan settings. The list included availability of videofluoroscopy, expertise, time, finance and equipment. If any of these
were not spontaneously raised by the participant, the researcher asked whether these factors were also barriers within the participant’s context. Medical approval for the procedure was an additional barrier nominated by some clinicians. Once this barrier had been identified, it was added to the list of potential barriers to specifically question participants about if not raised spontaneously. However, this barrier was not identified until part-way through the data collection process. Consequently, not all participants were prompted to comment on this potential barrier. Participants were also asked where they accessed their videofluoroscopy services if the equipment was not available on site.

Table 8.5 presents an overview of restrictions reported by clinicians according to service type. The findings for each restriction are discussed separately in this section, with reference to this table when relevant.

Table 8.5
Percentage of informants reporting restrictions to the access of videofluoroscopy

<table>
<thead>
<tr>
<th>Restrictions</th>
<th>Type 1</th>
<th>Type 2</th>
<th>Type 3</th>
<th>Type 4</th>
<th>Type 5</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Availability</td>
<td>64%</td>
<td>75%</td>
<td>63%</td>
<td>83%</td>
<td>21%</td>
<td>55%</td>
</tr>
<tr>
<td>Equipment</td>
<td>39%</td>
<td>100%</td>
<td>44%</td>
<td>33%</td>
<td>68%</td>
<td>51%</td>
</tr>
<tr>
<td>Expertise</td>
<td>14%</td>
<td>75%</td>
<td>38%</td>
<td>50%</td>
<td>11%</td>
<td>25%</td>
</tr>
<tr>
<td>Time</td>
<td>36%</td>
<td>25%</td>
<td>44%</td>
<td>17%</td>
<td>16%</td>
<td>30%</td>
</tr>
<tr>
<td>Finance</td>
<td>25%</td>
<td>0%</td>
<td>25%</td>
<td>0%</td>
<td>5%</td>
<td>16%</td>
</tr>
<tr>
<td>Doctor approval</td>
<td>11%</td>
<td>75%</td>
<td>31%</td>
<td>33%</td>
<td>11%</td>
<td>21%</td>
</tr>
</tbody>
</table>

Note: Clinicians were not limited to a single response

○ Availability and geographical accessibility

Availability was the most significant issue for the majority (55%) of the clinicians interviewed. Clinicians from Service Types 1, 2 and some from Service Type 3 did not have on-site access. For these clinicians, availability was primarily related to geography and distance. For this reason, some clinicians spoke specifically of travel and the distances involved, and how these factors inhibited accessibility of equipment for acute patients with dysphagia. For clinicians with on-site access (i.e., those in Service Types 4 and 5 and some in Service Type 3), the issue of distance was not relevant unless they were providing an outreach service. Rather, their comments surrounding the
issue of availability related to appointment times and availability of appropriate personnel onsite. All these issues are important when considering barriers to access.

In considering availability, it is important to look at the distribution of equipment across non-metropolitan areas of NSW and Victoria. In Figure 8.1 the hospitals with onsite access to videofluoroscopy are marked with a red star. Thirteen services in non-metropolitan NSW and 17 in non-metropolitan Victoria were reported to have a videofluoroscopy facility.\(^\text{13}\) The blue triangles represent all other hospitals within the two states that did not have on-site facilities for this procedure. Data presented here indicate that of the hospitals reported directly in this study to have a speech pathology service of any frequency, only 18% (30/165) were confirmed to have an available on-site videofluoroscopy facility.\(^\text{14}\) Yet all these hospitals might have patients for whom videofluoroscopy was medically indicated. This meant that any patients with stroke requiring videofluoroscopy who were admitted to any of the hospitals without videofluoroscopy would have had either to travel to a service with the facility, or not have the procedure at all. As one clinician aptly noted: *We’re geographically challenged!* (NSW 1.8). Indeed, the distances reported by some clinicians to access videofluoroscopy facilities placed their patients at a significant geographical disadvantage.

Figure 8.1 also illustrates potential catchment areas for the available videofluoroscopy services. Each service providing videofluoroscopy is surrounded by a set of shaded areas, each shade representing a range of distances by road, as defined in the key. From this map it can be seen that, based on a travel distance of 100km, which under average driving conditions at 100km/hr would equate to approximately a 1-hour drive, some areas were at a significant disadvantage in terms of access. There were numerous gaps in service, especially in areas of NSW.

\(^{13}\) Missing data points in NSW were likely to contain at least a further two services with videofluoroscopy facilities. The researcher became aware of these due to comments from other clinicians which specified the location of the nearest videofluoroscopy facility. These facilities are represented as missing data points, and are therefore not identified as videofluoroscopy sites in Figure 8.1.

\(^{14}\) This number included only those services for which interview data were obtained, and did not take into account missing data points which might have had on-site access to videofluoroscopy.
These gaps in accessibility of videofluoroscopy facilities resulted in significant access concerns for some patients with acute dysphagia. Clinicians without on-site access to videofluoroscopy spoke of the geographical challenges of accessing the procedure and balancing these challenges with the benefit to the client. Patient-related factors, especially medical status, needed to be carefully considered prior to accessing an off-site procedure. The travel that required to access videofluoroscopy was often an obstacle: “It would be a 6-hour [round] trip... It’s not good. But I look at it, and just hope that my bedside assessment is enough because we know that we could actually jeopardise the patient’s health by trying to get them access to videofluoroscopy” (NSW 1.13). These accessibility issues could therefore potentially result in videofluoroscopy...
not being considered as part of the standard management of the patient, but rather as a last possible resort (NSW 1.12) when all other options were exhausted.

Other potential barriers to accessing equipment when it was not available on site were suggested. Waiting lists at the larger centres and the challenges of working with clinicians from another service were noted. There were reported difficulties in accessing facilities that could undertake the procedure. Some clinicians from services without videofluoroscopy felt that services with the equipment were reluctant to provide videofluoroscopy to other clinicians’ patients. For example, one clinician said, We’re placed on a waiting list because we’re a regional town, because the only speechies that can do [the procedure] are the two [service type 5] speech pathologists (NSW 1.20).

However, having equipment located on site did not necessarily mean that it was always available. Around 20% of clinicians in Service Type 5 and over 80% of clinicians in Service Type 4 also reported availability problems as barriers to videofluoroscopy access. For these services, issues related to getting the patient to the radiology department and the availability of appointment times. It was reported that arranging appointment times was often difficult and relied on several factors beyond the clinician’s control, such as room availability in the radiology department, and the availability of appropriate staff. Some services were able to resolve this issue through negotiating regular set times with the radiology department, to ensure that speech pathology clients received the service as needed. Even in those cases where access was gained and procedures were conducted, access to the equipment necessary to replay and evaluate the recordings could be an obstacle. For example, one clinician said We don’t have easy access to the [specialist] equipment to actually view the video recording. I think that access in that regard ... can be problematic (VIC 5.16). However, this barrier was mentioned infrequently.

It was evident that availability of videofluoroscopy equipment was a barrier to access for some patients with acute stroke. Availability was interpreted in different ways by clinicians who had the facility on site compared to those who had to access it at another location. For the group accessing it off site there were significant distance and travel implications that needed to be considered in light of a patient’s overall medical status. This resulted in some patients not receiving a clinically indicated videofluoroscopic assessment because of their geographical location. The impact of availability and geographical accessibility on the management of patients with dysphagia following acute stroke is explored further in Chapter 11.
Equipment and availability were listed as two separate categories in the telephone surveys. However, analysis of responses suggested some overlap in terms of the manner in which some clinicians interpreted them. This was particularly evident for clinicians from Service Types 1, 2 and some of 3, who commented on the lack of equipment and the access to it, but not the quality of the equipment itself. This was because they had to access the equipment off site. The barrier of “equipment” and the relevance of this question to services without on-site access may therefore be under-represented in Table 8.5 as the question could be interpreted in two ways. The first related to the quality of equipment accessed; the second referred to whether they had the equipment or not. Because of this ambiguity, some clinicians accessing off-site equipment might not have commented on it at all.

Clinicians in Service Types 3, 4 and 5, who had on-site access to videofluoroscopy, made comments regarding the quality of the equipment, rather than just referring to having it or not. For many clinicians interviewed, lack of adequate seating for the procedure resulted in patients being denied a service based on their mobility status. As one clinician said:

*The equipment is very old and the patients have to sit on a ledge, which for CVA patients it’s not totally possible... So really we can’t do it on any patient who has hemiparesis or balance problems... They miss out. We have to fly blind.* (NSW 5.9)

This was an important consideration for a population of patients with the sequelae of stroke, where there is a high incidence of hemiparesis and associated mobility problems (National Stroke Foundation, 2007).

When clinicians were able to organise an appointment and the seating was considered appropriate for the client, the quality of the videofluoroscopic image and recording of the data often needed to be considered. A number of clinicians said that they were not very happy with the quality of the recording (VIC 5.14), which limited the information available from the procedure, which in turn could impede adequate interpretation of the results. This had implications for the quality of care provided to patients with dysphagia following acute stroke.
Perhaps the most surprising point noted when looking at the data presented in Table 8.5 was the limited acknowledgement of expertise as an issue for Service Type 1. Due to the absence of an on-site facility, it was anticipated that this group would have fewer opportunities to practise and could therefore consider expertise as more of an issue. However, only 14% of clinicians from Service Type 1 commented that this was an issue. One possible explanation for the pattern of responses seen here was that the clinicians from Type 1 services interviewed did not always undertake the procedure themselves. When their patients accessed videofluoroscopy at another facility, it was the clinician at the facility with videofluoroscopy on site, rather than the clinician from a Type 1 service, who would undertake the procedure. Therefore, it was possible that the issue of expertise was not a problem for the referring clinician. It was also possible, however, that these clinicians felt capable of undertaking videofluoroscopy when required, although from the nature of responses received this appeared unlikely. For example, a clinician from a Type 2 service acknowledged that being the sole clinician and coming out here as a new grad, I wouldn’t feel confident to do videofluoroscopy solo (VIC 2.2).

Opportunities to participate in the procedure were reported by some clinicians to be limited. This was related to the number of patients who were suitable for the procedure, available time in their caseload and interest in the procedure. For services such as Types 1, 2 and 3, where there were many demands on the clinician’s time and resources, dedicating time to the training required to undertake videofluoroscopy was difficult. As one clinician with a mixed caseload said, It’s not something that you can’t go and train up for but you’d want to be giving more hours for adults before you committed to going and doing some training (NSW 3.5).

Clinicians at sites with videofluoroscopy (Service Types 4 and 5 in particular) were often perceived by clinicians at services without on-site access as the experts (NSW 1.21). There was a sense that the services with on-site facilities were helping out (NSW 1.21) those without videofluoroscopy by providing their expertise. However, not all sites with videofluoroscopy were seen as equal in the level of expertise they could offer, with preferences for where to refer patients sometimes taking into account the clinician’s expertise at the videofluoroscopy site: XX is technically closer, but there is more expertise in YY, so I would send [my patients] to YY (VIC 3.13).
Many clinicians from services with videofluoroscopy on site discussed the utilisation of two speech pathologists for the procedure. As one clinician said, *We both need to be there when it’s happening, because we don’t do them that regularly it helps, I suppose to have a correct interpretation* (NSW 3.4).

Another reason for having two clinicians present was to aid in skill development and sharing of expertise within the department. Although confidence with the procedure was discussed more for the Service Types 1, 2 and 3, a small number of clinicians from Service Types 4 and 5 mentioned this as an issue. However, due to the often larger department size of some of these facilities, support in developing expertise was more likely to be available: *We’ve always been lucky in that we’ve had people who do a lot of them or it’s their special interest and have been quite talented* (VIC 5.16).

Combining the use of departmental resources with other professionals such as radiologists, and the use of external quality assurance programs, were also seen to promote the development of expertise and confidence in this area. Formal programs for developing skills were reported to have been set up within the department for a small number of the Service Type 5 sites, which further supported clinicians in this area.

*Having a radiologist now working with us ... I think the staff feel more confident with that... I’ve been looking here at the quality program for videofluoroscopy that’s being run state-wide, so I’m planning to ... get everyone involved in it this year.* (VIC 4.1)

This emphasis on the development of expertise in Service Types 4 and 5 was likely a result of dysphagia forming a significant portion of the overall caseload, together with ready access to videofluoroscopy facilities. These factors resulted in resources being more readily allocated to training and development of expertise in this area. It was also likely to be related to the need to minimise clinical risk and ensure that clinicians were appropriately skilled in tasks that they undertook regularly. In contrast, some clinicians from services without on-site access reported decreased confidence in that area, due to decreased time and opportunity and perhaps need to develop those skills. Coupled with the challenges faced in accessing videofluoroscopy, this may have resulted in it being felt more appropriate to utilise the expertise at services which undertook the assessment on a frequent basis.
Another restriction related to undertaking videofluoroscopy was time. Clinicians from Service Type 3 identified this as particularly challenging, with 44% highlighting it as a restriction (Table 8.5). It should be noted that Service Type 3 clinicians who had videofluoroscopy on site often did not have dedicated adult-related service time. As a time consuming procedure, videofluoroscopy needed to be fitted in beside competing demands.

Clinicians from Service Types 1, 2, 3 and 4 raised the issue of “juggling” the videofluoroscopy procedure with the demands of their mixed caseloads. The pressure on the clinicians’ time meant that someone had to miss out. This was often an outpatient (paediatric) client.

Because we only service the hospital for 2 hours often the scheduling [of] appointments with x-ray can actually be quite tricky and we have to cancel clients – paediatric clients – often to fit in the modified barium swallow. (NSW 3.4)

For the services without on site access, the effect of someone missing out was magnified if it was necessary for the clinician to travel with the client to undertake the procedure. One clinician said: for us to go there it’s nearly a whole day off our caseload ... We tend to not refer as many as we probably would because of that contingency on it .... It makes it very difficult (NSW 1.13). Clinicians reported finding it hard to balance the needs of a dysphagia client with their commitments to the rest of their caseload.

However, the larger services providing the procedure also had challenges in terms of time. Clinicians at facilities with videofluoroscopy were often called upon to undertake the procedure on behalf of the smaller services, which then led to demands on their time, and the need to determine how to manage these clients.

Clinicians from all service types spoke of challenges in obtaining appointment times and having to work around other departments, such as radiology, to undertake the procedure. A Type 4 clinician said:

We’re only able to do them Mondays and Thursdays. It’s the only days we have a radiologist here, so that’s a restriction....Once we get an appointment we usually just swap people around so we accommodate them, give them priority. (VIC 4.1)
Due to the nature of their adult-specific caseloads, and the higher volume of clients requiring videofluoroscopy services, some Service Type 5 clinicians had been able to negotiate set times with radiology, to decrease the need for juggling between departments. A clinician from a Type 5 service reported: *It works fairly well now that we have ... dedicated time* (VIC 5.18).

Time demands were therefore an issue for all service types to different degrees. Commitment of time to a videofluoroscopy meant for many services that time needed to be redistributed from other parts of the caseload. This had the potential to result in a videofluoroscopy not being undertaken. This impact on clinical practice is discussed further in Chapter 11.

- **Finance**

Responses to the issue of finances restricting access to videofluoroscopy were mixed, with Table 8.5 showing that only 16% of clinicians overall reported this as an issue. Not surprisingly, most of the limited comments made by Service Type 1 and 3 clinicians related to the cost of transport to access the procedure off site. Issues surrounding who would pay transport and imaging costs were raised, although in most cases this tended to relate more to outpatient services.

For services that had on-site videofluoroscopy, finance was discussed in terms of maintenance and upgrading of equipment. For some services, this was seen as a major limiting factor in providing an ongoing, quality assessment service. A clinician from a Type 5 service said, *Finance has been ... the issue in having the screening unit actually repaired or replaced here ... They’re a bit reluctant to pay that much money* (NSW 5.11). For most clinicians in this study, however, cost did not appear to be a major restriction in access to services for the acute dysphagic population.

- **Doctor approval for the procedure**

This category was raised by 21% of the clinicians themselves as an issue (Table 8.5). It would have been interesting to observe if responses changed had it been routinely prompted for from the beginning of data collection. Indeed, this category raised the issues of speech pathology’s relationship with the medical profession, the role of speech pathology within the acute team, and the manner in which the role and the
assessment were viewed. These issues were therefore explored in greater depth in Phase Two. The limited data gathered in Phase One are now presented.

Need for approval of the procedure by medical staff was not restricted to one particular service type. There appeared to be generally a limited understanding by medical staff of the role of the procedure in the management of the dysphagic patient. This resulted in videofluoroscopy not being considered a high priority in terms of instrumental procedures. There was a perception by some clinicians that general practitioners had control over whether videofluoroscopy was undertaken at all. They acted as gatekeepers, and the clinicians then had to convince the doctor to approve the procedure. One clinician reported her approach to managing this obstacle:

*I’ve only ever had one comment that “oh you speechies are always after this” but they signed off on it anyway, I think, because I made the joke that “Well you guys always want MRIs! You can’t see what’s happening either”. It’s interesting, we can’t see what’s going on at the pharyngeal stage and people order other X-rays, and this is quite an important X-ray!* (NSW 1.20)

Thus for clinicians from the range of service types, the nature of the approval process for videofluoroscopy and the subsequent reliance on medical approval of the procedure could be a restriction when considering undertaking the procedure. This is discussed in Chapter 11.

- **Summary of restrictions in the access of videofluoroscopy related to service type classification**

Differentiation and classification of services into the five service types was supported by the issues raised in relation to restrictions of videofluoroscopy access. A relationship was evident regarding the types and nature of restrictions noted and the service type group in which a service was classified. This section has provided examples of restrictions reported by clinicians in accessing videofluoroscopy services for acute patients with dysphagia. These were summarised in Table 8.5 at the start of this section.

Clinicians from Service Types 1, 2, 3, and 4 reported that the main restriction to videofluoroscopy was availability. These differences could be attributed to a combination of geographical accessibility of the equipment and the ability to access
appointment times when it was on site. This situation contrasted with that of clinicians from Service Type 5, who found the quality of equipment to be a major restriction.

Responses from clinicians interviewed could be considered on a continuum from having no on-site service available, along with the complexities surrounding off-site access, to having the equipment on site but being restricted in terms of the quality of the equipment and the manner in which it could be utilised for its intended purpose. One could argue that at all points of the continuum that there were restrictions in access. It was the nature of the restrictions that differed.

The overarching implication of these restrictions relating to access of videofluoroscopy was that the service received by patients with acute dysphagia following stroke could vary according to their geographical location. Rather than undertaking the procedure according to clinical need, there was the possibility that clinicians made decisions regarding the use of videofluoroscopy based on availability and not clinical indications. When considered in the context of the literature, this has significant implications for the equity of services received by some patients in non-metropolitan areas.

The issue of accessibility and equity was also evident when discussing the access to equipment at larger services by clinicians who did not have on-site videofluoroscopy equipment. These difficulties reflected the resource limitations experienced by all service types. Within the health system at large, there is mutual understanding that if a patient requires an assessment or care that is beyond the capacity of a less resourced service, then it is the obligation and role of the more resourced service to provide that support. However, some of the responses provided in this study suggested that this may not always occur for speech pathology patients. Access appeared to be dependent on relations between individuals, rather than based on service and patient need. To improve the availability of services such as videofluoroscopy and improve the equity of access, we need to understand why this is occurring and how this barrier can be managed to improve patient care.

The final issue noted was that of medical personnel as gatekeepers to access to videofluoroscopy. In Australia, a medical practitioner must approve the referral to radiology in order for the procedure to take place. However, some clinicians in this study observed that this was a barrier to their ability as professionals to make decisions based on clinical need. Clinicians spoke of the time and effort required to continuously justify and explain their position, to enable them to obtain a procedure that allowed
them to perform their role appropriately. This was compounded by the variability of medical understanding of the speech pathology role. If some medical personnel were accepting of speech pathology and some were not, what were the implications in terms of equity of access? Some patients might not have assessments because of a doctor’s limited understanding or acceptance of speech pathology’s role in this area. For a profession that is supposed to be autonomous (Speech Pathology Australia, 2005c), this process needs to be reconsidered. These areas are explored in more depth in Phase Two of the study (Parts Four and Five).

8.2 PROVISION OF DYSPHAGIA SERVICES IN THE ABSENCE OF A SPEECH PATHOLOGIST

For all the clinicians interviewed, at both their base site and outreach sites, there were times that a speech pathology service was not available. Section 8.1.2 presented the challenges surrounding response times and how difficult it could be to ensure that assessment was timely. This section presents the findings about the systems that were in place for when a speech pathologist was not present.

8.2.1 Policies and Procedures for Management of Dysphagia in the Absence of a Speech Pathologist

Clinicians were asked if their service had in place a document that described what should happen in the absence of a speech pathologist. There could be variations between documents for the base and any outreach sites. Table 8.6 presents the number of clinicians who reported the existence of a document outlining what should happen if a patient required a dysphagia assessment in the absence of a speech pathologist. Overall, 48% of clinicians interviewed reported that such a document existed within their service. The data presented in Table 8.6 suggest that, for the majority of services across the service type spectrum, this issue had not been addressed in any formal manner. This was surprising given the challenges identified throughout this chapter, especially in terms of provision of outreach services and timeliness of assessment.
Clinicians described three main approaches adopted when a speech pathologist was not present. These were the patient being “nil by mouth” until speech pathology assessment, the medical staff making a decision (doctor’s call) as to the patient’s oral intake status, and the use of a screening tool by another health professional. These strategies were perceived to overlap considerably. Most surprising, however, was that many clinicians interviewed were unsure of what happened when no speech pathologist was available. There was ambiguity surrounding whose responsibility it was to have these systems in place. This ad hoc approach was particularly unexpected for Service Types 1, 2 and 3, which often were not located within the hospital and had competing demands on their time in the form of a mixed caseload and multiple outreach sites. Type 5 services were also surprising, in that only 58% had defined systems in place for what would happen in the absence of a speech pathologist, even though adult acute dysphagia formed a larger portion of the caseload. No service in this study reported having a weekend or on-call system in place.

The option of “nil by mouth till speech pathology assessment” was recognised by many of the clinicians interviewed. Across the full range of service types there appeared to be an assumption that patients would be made nil by mouth until a speech pathologist was available, despite this not necessarily being documented procedure. Although nil by mouth was identified by these clinicians to be the process that they believed should occur, in reality it often reverted to an ad hoc or “doctor’s call” system. If the patient was considered “okay”, then many clinicians reported that nursing or medical staff would go ahead and feed. Despite not having a specified system in place to nominate another professional to undertake screening in the absence of a speech pathologist, many clinicians assumed that this was occurring. It appeared that clinicians

<table>
<thead>
<tr>
<th>Type</th>
<th>Type 2</th>
<th>Type 3</th>
<th>Type 4</th>
<th>Type 5</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Services with a policy</td>
<td>(14/28)</td>
<td>(2/4)</td>
<td>(3/16)</td>
<td>(5/6)</td>
<td>(11/19)</td>
</tr>
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<td>50%</td>
<td>19%</td>
<td>83%</td>
<td>58%</td>
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<tr>
<td>Services utilising a dysphagia screener</td>
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<td>(1/4)</td>
<td>(4/16)</td>
<td>(5/6)</td>
<td>(4/19)</td>
</tr>
<tr>
<td></td>
<td>29%</td>
<td>25%</td>
<td>25%</td>
<td>83%</td>
<td>21%</td>
</tr>
</tbody>
</table>

Table 8.6
Presence of policies and procedures for use in the absence of a speech pathologist
from all service types thought that medical personnel in particular would consider dysphagia as part of their initial assessment if the speech pathologist was unable to be there to assess.

*Its part of the sharing, the team ... It’s not that we’ve given them a specific role, that’s just a standard thing that is present ... in all hospitals I would imagine. Who can and can’t make decisions. We only make recommendations anyhow, ultimately they [the medical staff] make the decisions.* (VIC 1.28)

This may be in part due to the nature of acute services and the underlying philosophy of the medical model, where the doctor ultimately determines patient care. This reliance on the medical team could also in part often be attributable to the historical context of the service and what had evolved over the years. Change of these historical arrangements was often identified as a challenge.

The inadvertent use of such ad hoc and “doctor’s call” systems raised several questions. One was the unspoken issue of responsibility shifting. Although in most cases it was not likely to be intentional, the notion that another professional would automatically undertake what was technically defined and promoted as the role of the speech pathologist in a clinician’s absence opens up an area of debate. To what extent were clinicians responsible for implementing and promoting strategies and protocols to be used in their absence? And if a system was deemed appropriate, to whom should these out-of-hours speech pathology duties be assigned? What effect might this have both at a local level and in terms of our professional role? Conversely, what possible patient-related outcomes might occur if no out of hours policy was implemented at a facility? What would happen in terms of speech pathology’s responsibility to the service and the patient?

In assuming that other team members would take responsibility for assessing these patients, there was also an underlying assumption by some clinicians from the full range of service types that these other health professionals would have the appropriate skills to do so.

*The doctors do have a level of training, the nurses are ...I’m not aware, we do give them inservices on dysphagia, so they have a level of knowledge. Some of the nurses I know just do swallow tests but we haven’t trained them to do swallow tests.* (NSW 1.4)
This was in spite of the issues generally identified around the difficulties of providing regular and frequent education to nursing staff in particular. Table 8.7 presents data related to the provision and frequency of dysphagia education to nursing staff. Although 86% of clinicians reported that they provided dysphagia education, many informants made comments about the regularity of this activity. Time to implement education for the use of tools such as screeners was a problem, from both the speech pathologist’s perspective in providing the education, and for the staff undergoing it. Difficulty fitting in these education sessions was a result of caseload demands and fluctuating speech pathology staffing levels. With resources often needed more urgently in other clinical areas, many clinicians said that education generally was an area that was neglected. As one Type 5 clinician said, *Ideally, it’d be sort of a couple of times a year, but realistically I know the last 12 months the wards have only had one in-service, but our staffing has been a bit patchy* (NSW 5.11).

Table 8.7

<table>
<thead>
<tr>
<th></th>
<th>3 times a year or more</th>
<th>2 times a year</th>
<th>1 time a year</th>
<th>Every 2 years</th>
<th>Less than every 2 years</th>
<th>Ad hoc/did not specify</th>
<th>Did not provide training</th>
</tr>
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<td>1</td>
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<td>4</td>
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<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Type 3</td>
<td>2</td>
<td>3</td>
<td>5</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
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<td>30</td>
<td>3</td>
<td>3</td>
<td>8</td>
<td>10</td>
</tr>
</tbody>
</table>

Speech pathology staffing was not the only area of concern when considering education. The often itinerant nature of nursing staff in many services meant that keeping up with staff turnover was a challenge in itself. Although initial education of nursing staff might be possible, ongoing education was needed to ensure that all staff remained up to date in terms of policy and procedure, making things often more complicated. In addition, some services reported variations in terms of education of

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15 An “in-service” is a term used to describe education provided to other professionals within the same facility.
nursing staff, and therefore variations in terms of their awareness of dysphagia as a clinical issue. Many clinicians also reported reluctance of some nursing staff within their service to undertake education generally. This resulted in a perceived need to have to push for education to take place.

In some services, nursing staff were reported to be reluctant to be formally involved in protocols for managing dysphagia patients in the absence of a speech pathologist. One reason proposed for this was general lack of interest, and another was the issue of professional responsibility and expertise. It was said that nursing staff didn’t want to be responsible for making a wrong decision (VIC 5.18). This contrasted with many other comments that were made in terms of nursing staff overstepping their role. Role definition and delineation was raised by many clinicians from all service types as an issue within their service when discussing strategies for managing patients with dysphagia in the absence of a speech pathologist. A Service Type 1 clinician said that because nurses know how to do swallowing assessments... if I’ve just left and I’m not going to be up there for another week they’ll think “oh well, I’ll just take this on and this will do” and won’t call me for a referral. So in some ways it can work a little too well ... I suppose in those circumstances I don’t find out about them [if something has gone wrong] most of the time (NSW 1.6).

The exact reasons for this situation were unclear, and may be a result of misunderstanding and historical context as well as issues of role and boundary definition. In some cases, it might be a difficulty on the part of both sides to work together. There might also be limited recognition of policies and procedures. The result of some of these different views on what was appropriate and whose role it might be was that some clinicians felt that they then had to spend significant amounts of time in a busy caseload putting out fires and renegotiating boundaries (VIC 2.2) on a case-by-case basis. This could lead to a general dissatisfaction with systems as they currently existed.

Some area health services, particularly in NSW, had attempted to develop area-wide systems to address some of the issues identified, with the development and implementation of guidelines to be used in the absence of a speech pathologist. The attempts have met with varied success. The organisation of such documents at a wider level was also challenging. For some of those services which had protocols in place, there was the feeling that it was “yet another form”. Many clinicians reported that although there might be a protocol in the form of checklists, flow charts or
recommended guidelines, no one actually followed them. To improve adherence to systems, clinicians from some Type 4 and 5 services had incorporated protocols for absence of speech pathology as well as referral guidelines into stroke clinical pathways. Although this assisted in some ways with implementing policies in practice, this was not always the case, with *varying success as far as the dysphagia nurse protocol goes* (VIC 4.5) reported by some services. Some clinicians said that this could be partially related to *problems with the whole pathway* (VIC 4.5) rather than just speech pathology alone.

When considering implementation of systems for the management of dysphagia in the absence of a speech pathologist, other professional staff within the service were not always the main source of opposition. Contention appeared to be present within the speech pathology profession regarding the form that an absence of a speech pathologist policy should take. Without a unified view within the profession about the use of dysphagia screeners or about what should happen in the absence of a speech pathologist, this may not be surprising. One clinician reported how this affected what could be organised within her service:

*We have looked at implementing a screener and it was so contentious it just sort of went by the wayside... There was a lot of disagreement among the other adult therapists ... [we were intending to implement a screener]... because our service is so minimal, whereas the other therapists who were opposed to the idea were in dedicated adult positions in their hospitals, so there was a conflict there, and there was a lot of concerns that other professionals were incapable of doing swallowing assessments....But somebody must be giving them informally because there’s an awful lot of patients that we don’t get referred so.... At the moment, we’re just gonna sit tight because it’s as close as we have been to getting a full time position at the base ... so we’re not gonna change anything. Because if you do, the down side for us is that if we do put the screener in place, then [there is] even less need for us ... that’ll work against us, in a warped way of thinking.*  
(NSW 3.5)

Comments regarding making the profession of speech pathology redundant within the acute medical service were especially noted among clinicians from Service Type 5. This was perhaps because of the higher funding priority of managing an acute caseload within these services. There were also issues raised about ensuring and maintaining appropriate competency levels, and the resources required to do so.
Despite the challenges of education and implementation and having to “police” the implementation of such strategies, some clinicians from Service Types 4 and 5 felt that utilising screening programs was the only way to meet the clinical performance indicators set by the National Stroke Foundation (VIC 5.16). It then became the clinician’s role to determine the appropriate format for such a system within that service, and how to manage it. However, as one of the Service Type 5 clinicians noted, the establishment of systems could be hit and miss (VIC 5.16), raising questions about quality of care.

8.2.2 Summary

The consideration of assessment in the absence of a speech pathologist raised significant interest from the clinicians interviewed in this study. There was no consensus as to the appropriate method of managing this issue. This was consistent with the literature in this area, which is yet to identify an appropriate approach to be adopted under such circumstances. Although work has been undertaken on identification of a screening tool that can be utilised by other professionals in the absence of a speech pathologist (see Chapter Two), significant issues remain in this area.

The data presented here suggested some interesting patterns. Clinicians from Service Type 4, although a small group, were the most likely to have a nurse dysphagia screening protocol in place. Reasons for this were unclear. It could be that although Type 4 clinicians had presence on the acute wards and were well recognised, they still could not be there as often as they needed to be. There could therefore be pressure for this group to have such systems in place to meet National Stroke Guidelines.

In contrast, clinicians from Service Type 5 often had more time to spend on the wards. This increased presence perhaps led to greater role acknowledgement and other staff being more prepared to wait for them to assess the patient. Alternatively, maybe clinicians from this service type had had more time to investigate options related to management in the absence of a speech pathologist, and had decided against utilising screening models due to the significant training investment required. There was also the
consideration of what would occur if other professionals were trained to undertake this task. Some clinicians felt that if they trained others to screen, they might be placing their own position at risk of becoming redundant. There were also issues of training other staff to a level of competency. Debate surrounding the legal and ethical implications of training another professional to undertake part of the speech pathology role required consideration.

The reasons for different approaches to management in the absence of a speech pathologist obviously require further investigation before widespread progress can be made in this area. This is explored in Chapter 13.
CHAPTER 9
DISCUSSION OF RESULTS FROM PHASE ONE

The results presented in Part Three have provided an overview of dysphagia service provision in non-metropolitan NSW and Victoria. The availability of services and their geographical spread, along with data surrounding resourcing of services, resulted in the development of a classification system for adult speech pathology services in non-metropolitan NSW and Victoria. This system was then discussed in terms of aspects of assessment provision, and how resourcing affected the services clinicians were able to offer to patients with dysphagia following acute stroke. These data highlighted inequity issues that surrounded service provision to this population.

To understand the potential impact of the issues identified in this chapter, this section contains two hypothetical case studies based on the findings of Phase One. This is followed by a discussion and summary of the main issues.

9.1 HYPOTHETICAL CASES BASED ON THE RESULTS FROM PHASE ONE

This section uses data provided by the clinicians in Phase One of the study, along with literature on potential outcomes following stroke as presented in Chapter Two, to illustrate how the classification system worked and what it represented in terms of process and patient care. This information is presented as two flow charts that take a hypothetical 79 year old acute stroke patient, Mrs Smith, through the provision of a dysphagia assessment. In Scenario A, Mrs Smith is admitted to a hospital with a Service Type 5 speech pathology service. In Scenario B, she is admitted to a hospital with a Service Type 1 speech pathology service. Each scenario is then discussed and compared for differences in outcome.

9.1.1 Scenario A: Mrs Smith

Figure 9.1 presents the hypothetical case of Mrs Smith, who is admitted to a hospital which has a Service Type 5 speech pathology service. By definition, a Service Type 5 has the best resourcing available in non-metropolitan areas to provide speech pathology dysphagia management to Mrs Smith. On admission to the emergency
department, Mrs Smith is diagnosed by the medical team with a cerebrovascular accident, and is placed on a stroke clinical pathway. The stroke clinical pathway highlights the need to assess Mrs Smith for dysphagia prior to her taking anything orally, and within the first 24 hours of admission, as per the National Stroke Guidelines and hospital policy. The nursing staff from emergency page the speech pathology department with the new referral. Because the speech pathologist is on site, and has time dedicated to seeing adult patients, Mrs Smith is seen by the speech pathologist within 24 hours. If it is a weekend, there is a document outlining what should occur in the speech pathologist’s absence.

Mrs Smith fails her speech pathology assessment, and is therefore placed on a management and review list with the speech pathology department, who review her according to clinical need and the prioritisation system in place within that department. During her time in the acute hospital, it is decided that Mrs Smith would benefit from a videofluoroscopy. After some small difficulties organising an appointment time with the radiology department, this is successfully undertaken. From this assessment, an appropriate management plan is made, and the results of the videofluoroscopy are discussed with Mrs Smith, her family, and the acute medical team. This management plan will result in the risk of adverse events being minimised. This is considered to be a “best practice” case scenario.
Patient admitted following stroke

SP located on site

Dysphagia screen or assessment within 24 hours

Pass

Oral intake commenced and monitored

Risk of adverse event minimised

Fail

Full speech pathology assessment and management

Videofluoroscopy available on site if warranted

Figure 9.1: Scenario A: Service Type 5
Scenario B is illustrated in Figure 9.2. In this scenario, Mrs Smith is admitted to her local hospital, which is described as a Service Type 1. This is the least resourced in terms of adult dysphagia services in non-metropolitan areas. It is apparent from the diagram presented in Figure 9.2 that the process here is not as defined as that presented for the Service Type 5 in Scenario A (Figure 9.1).

Because the speech pathologist is located off site, or does not have a regular time allocated to spend within the hospital, several options emerge. First, there may be no system in place for what happens when the speech pathologist is not on site, leading to ad hoc or no management. The second option is that the speech pathologist or another health worker may have set up a screening program – and depending on how well it is
set up, it could be beneficial or not. The third option is that they call for the speech pathologist to come. As the speech pathologist is not necessarily located on site, and is managing a busy mixed caseload, several factors come into play to determine how long it will take for him/her to get to the hospital. In this time, Mrs Smith may be either waiting “nil by mouth”, or the system may revert to the ad hoc pathway.

Once the assessment has been undertaken and recommendations made, problems may arise regarding the management plan in terms of reviewing and monitoring. Two decisions that need to be made are who will be responsible for implementing the plan and how often the speech pathologist can review the patient. In addition, undertaking education of the patient and caregivers and organising discharge requirements are just some of the things that need to be considered. These arrangements increase the risks in terms of adverse events. Literature presented in Chapters 2 and 3 would suggest that not having a defined system in place would increase Mrs Smith’s likelihood of developing an aspiration pneumonia, potentially leading to death. This flowchart therefore represents a worst case scenario.

The data collected in this study, combined with discussions with practising clinicians and personal clinical experience, strongly suggest that these flowcharts are not unrealistic. They present the best and worst case scenarios: what is possible with the maximum level of resources clinicians in this study reported having available, and what may occur when resources are minimal. These examples therefore highlight the potential differences in outcomes that can occur based on contextual factors as represented in the classification system presented in this chapter. It has been acknowledged that many services in non-metropolitan regions remain underdeveloped due to resourcing and staffing issues (NRHA, 2004). This appeared to be reflected in the service type classification system and data presented here.

From a dysphagia perspective, Scenario B presented here does not meet what the literature would define as best practice. It is unlikely that the patient would be assessed within the 24 hour guidelines as recommended by the National Stroke Foundation. It is also unlikely, given the discussion in this chapter surrounding the context of service provision, that patients within a Service Type 1 facility will always be reviewed when clinically appropriate, due to other caseload demands. Clinicians within this service type also acknowledged the constraints in obtaining instrumental assessment procedures. The flow charts presented above and the data they represent
suggest that some patients with dysphagia following acute stroke in non-metropolitan areas of NSW and Victoria have better clinical care than others. All these factors have the potential to compromise patients’ outcomes following stroke.

9.2 SUMMARY OF RESULTS PRESENTED IN PART THREE

Part Three has presented the results of a telephone survey (Phase One) which aimed to provide a broad overview of the provision of dysphagia assessment in non-metropolitan areas of NSW and Victoria. This phase provided information related to the assessment of dysphagia by a speech pathologist, and an overview of the processes that were in place when speech pathology services were not available.

From the results of the telephone survey, patterns were noted in the data that allowed the development of a classification system to describe speech pathology adult services in non-metropolitan areas of NSW and Victoria. Five service types were identified that enabled demographic data and resource levels to be described. This system highlighted that non-metropolitan speech pathology services for adults were not created equal. Geographic data in relation to service availability utilised this classification system to illustrate the frequency and types of service available. Throughout this chapter, the classification system was utilised to show how these differences in resourcing had the potential to impact on service provision to patients with dysphagia following acute stroke.

Some issues underlying the provision of services in non-metropolitan areas were noted. These included the challenges surrounding mixed caseload, the difficulties of servicing over wide geographical areas, maintenance of expertise and support, and unmet need within communities.

Data were presented relating to tools utilised by speech pathologists in the non-metropolitan context to assess dysphagia. It was found that variation existed regarding access to and use of both non-instrumental and instrumental assessment tools. These differences could be related to the service type classification and the underlying resource issues. The development of policies and procedures to manage dysphagia varied amongst service types. Clinicians from services with less adult-related resourcing found it more challenging to develop and maintain such systems. Barriers were also highlighted in the access to videofluoroscopy. These involved availability, geographical accessibility, quality of equipment, time, medical approval for conduct of the procedure,
and expertise. Patterns were again noted in the data relating to these issues and the underlying service type classification. These had the potential to impact on service delivery, an aspect which is explored further in Phase Two of this study.

Assessment of dysphagia in the absence of a speech pathologist was also highlighted as a significant issue in this phase. The results presented in this chapter suggested that many services did not have adequate systems in place for addressing this issue. Issues surrounding the development of systems were briefly outlined, and are explored in more depth in Phases Two and Three of this study.

In the discussion of equity presented in Chapter 3, it was noted that if a service was available in some contexts and not in others, and inadequate access was potentially avoidable, then the situation could be considered inequitable (Braveman & Gruskin, 2003; Whitehead, 1990). The data and the hypothetical cases presented suggested that equal quality of care, which was proposed as a target of health care in Chapter 3, was not being achieved for all patients in non-metropolitan areas who required dysphagia services following acute stroke. To better understand the issues underlying service provision and the potential implications for care, the issues identified in this phase are explored in greater depth in Parts 4 and 5.
Part Four presents the findings and discussion arising from a series of face to face interviews (Phase Two) and two focus groups (Phase Three) conducted with clinicians from a range of different service types across non-metropolitan New South Wales and Victoria.

These results are presented in a manner that depicts both the practical descriptive process of dysphagia assessment and the issues that the clinicians identified as impacting on this process within their settings. For the purpose of clarity each section is presented separately, but in reality this was not the case. The complex and interwoven nature of the issues should not be underestimated when reading this chapter. This feature is referred to throughout the presentation of results and the subsequent discussion.

Chapter 10 explores some of the important contextual issues surrounding non-metropolitan practice as raised by the clinicians in Phase Two of the study. These are particularly relevant when discussing the practical aspects surrounding assessment. The assessment process itself is described, presented and discussed in Chapter 11, where it is broken down into steps which make up the process. This is followed in Chapter 12 by presentation and discussion of the results related to assessment of dysphagia in the absence of a speech pathologist.
As highlighted during presentation of the results and discussion of Phase One (telephone surveys) in Part Three, a consideration of context was imperative to understanding the manner in which acute dysphagia assessment was undertaken in non-metropolitan NSW and Victoria. It is therefore necessary to present and discuss some of the issues that impacted on how clinicians from Phase Two (interviews) provided a dysphagia assessment service. These included the role of departmental history and recruitment/retention, the impact of previous personnel, and the sporadic nature of the acute medical environment.

### 10.1 CHALLENGING THE STATUS QUO: THE ROLE OF DEPARTMENTAL HISTORY AND RECRUITMENT/RETENTION

Departmental history influenced the manner in which the clinicians interviewed worked within their services. The history of speech pathology within a service could be influenced by several factors, including recruitment and retention issues, clinician personalities and caseload preferences, and clinical skills of the previous clinician. In turn, these factors could have an impact on the manner in which services were provided and the way in which incoming speech pathologists were able to work within each service.

#### 10.1.1 Recruitment and Retention Issues

Recruitment and retention issues were mentioned by all the clinicians interviewed in Phase Two of the study as having a substantial impact on the manner in which dysphagia services were currently provided. The perception that *speech pathologists don’t stay, they just come and go...as easy as they please* (Sue: Int) often led to a view that the profession was able to be dispensed with. This then resulted in each speech pathologist having to work in an environment that might already be predisposed to not including new allied health staff members. As a result of this
continual turnover of staff, individual clinicians then spent significant time and energy re-establishing a position when they started working at a service.

Issues surrounding staff turnover also manifested in challenges in developing the department as a cohesive whole. Clinicians undertaking temporary contracts were unlikely to make significant changes, preferring to not rock the boat and keep the work at a manageable level and not let it go off the scale (Claire: Int). Services with staff shortages were limited in what they could develop. When staffing was stable, new ideas could be developed and implemented in a more sustainable manner.

Issues with recruitment to services with more than one speech pathologist meant that existing permanent staff had to be flexible in attracting new clinicians. This could be seen as a delicate balancing act, as it could sometimes also mean that longer term, permanent staff members might have to be flexible in their caseload preferences to coax in newcomers (Kate: Int). It could also mean that the department as a whole might have to reorganise itself to accommodate this.

However, the most challenging aspect for the clinicians interviewed was the impact of recruitment and retention difficulties on service delivery. Clinicians managing a mixed caseload spoke of the impact of staff turnover on paediatric waiting lists. As a result they felt pressured in this area, which had the potential to adversely affect the manner in which the whole caseload, including dysphagia, was managed. Apart from the increase in waiting lists, a gap in service could also create the need to juggle caseloads to cover the gap. This could result in reduced service to all clients, or some groups missing out entirely. In non-metropolitan areas, where services could be few and far between, a gap in service meant that a patient discharged from a ward might have nowhere to go for follow up. This put significant pressure back on the clinician to either provide an additional service to cover for the missing one, or to send the patient home knowing that care might be compromised. Sue (Int) spoke of how this affected care for her patients:

_I’m lucky now because I now have someone in the community base here ... and she’s making it so much simpler ... When you are in Sydney, you know that Ryde Rehabilitation Hospital is going to be a full complementary team of speechies. So when they discharge, you know that things are going to be followed through with. Where here, if I know someone’s going out onto a farm ... they’re not going to have anybody.... and so that’s the reality.... Because once ... the [rehabilitation] speech pathologist leaves, I’m going to back to that same situation with people who have got no... avenue for rehab. And... that’s swallowing.... that’s everything._
Not having a speech pathologist within a service for a period of time impacted on the manner in which dysphagia services were utilised. Both Julie (Int) and Claire (Int), whose services had experienced periods with no speech pathology service, spoke of the impact on referral patterns and the manner in which speech pathology was able to undertake a role in the care of the patient with dysphagia. As the service had functioned so long ... without a speech pathologist (Julie: Int), other professionals in the service had become used to not having one here (Claire: Int). They then did not make referrals to speech pathology because they were quite practised at doing it that way (Claire: Int).

Recruitment and retention difficulties were reported by all the clinicians interviewed, spanning the full range of service types. For sole clinician services, this could lead to significant issues related to gaps in service and establishing a professional presence. For services with more than one clinician, it could lead to juggling of caseloads and someone missing out on services. For all services, there were challenges in developing the service and continuity of care for the patient with dysphagia, as well as other clients on the caseload. This was consistent with the rural health literature in this area, which noted recruitment and retention issues to be associated with decreased accessibility of services and reduced quality of outcomes (Australian Government Department of Health and Ageing, 2008; Duckett, 2007; Humphreys, 1999). These issues therefore could affect the quality of service clinicians were able to provide to patients following acute stroke.

### 10.1.2 The Impact of Previous Personnel and Making Changes Within the Department

Both positive and negative impact of a predecessor had the potential to affect the manner in which clinicians worked within their current services. Several clinicians spoke of the effect of previous clinicians on the service’s caseload distribution and staffing numbers. This was an issue for Cassie (Int), who was aware of a significant history of fluctuations in staffing levels and caseloads based on the interests of previous clinicians. Cassie found this challenging. It meant that she now had to justify and explain what she did to management, in order to provide a service that was accessible to all. For Claire (Int), the history of previous clinicians meant that she had to prove herself and her role. She had to advocate for working with adult patients, particularly on
the acute wards, and work at raising awareness and understanding. She needed to break the mould of the speech pathologist as someone who saw only paediatric clients.

It [department history] does create a bit of uneasiness I guess with the medical and nursing staff. ... They don’t bother to refer. So it is trying to break that and go “I do exist. I do want your referrals as well”. So letting them know I’m not just focused on the kids ... I think that there’s this idea within the community that I’m paediatric focused. Because that’s what most people see the speech pathologist as, ... the articulation person. They definitely don’t see them as the adult, and definitely don’t see them as the swallowing person so, yeah it does impact on the caseload but I’m just trying to say “I’m more than that”. (Claire: Int)

This focus on paediatrics by a previous clinician had been an issue within Kate’s service as well. As Kate (Int) pointed out: I’m sure they’ve [adult patients] always been there ... It just wasn’t recognised, or maybe it wasn’t an area of particular interest for the speech pathologists that were here.

The previous clinician’s personality could also have an impact on the manner in which an incoming clinician was accepted into a service. Some clinicians spoke of the challenges that arose when the speechies in the past ... didn’t have a particularly good relationship (Cassie: Int) with other professionals or had not been well liked within the organisation. This meant that the current clinician had to spend time rebuilding and establishing relationships both on a personal level and, perhaps more significantly, on a professional level. This could be within the service itself, such as with medical, nursing and kitchen, and with external services. Poor clinical skills could also affect how a service was perceived. In sole clinician services, these then led to other team members disregarding speech pathology as a profession, rather than attributing an incident to the individual clinician involved. As a result, the next clinician to enter that service had to prove her or himself and the profession to be recognised, a significant challenge.

When considering the history of their departments, all clinicians reported changes over the past 5 to 10 years in the manner in which adult acute services were provided. To make changes to pre-existing systems and roles, many acknowledged that it takes a long time and a lot of confidence to be able to mess with ... what went on before (Jane: Int). Without this experience, it was assumed that what went on before was OK or OK enough for me to continue. Historical practices could thus continue unless overtly challenged.
Being in a permanent position and knowing that you were there for the longer term also contributed to the ability to change. For Claire (Int), settling into the position meant that she could do it the way I want to do it. At the same time, however, she acknowledged that lack of support due to absence of a full team made implementation of patient care difficult. Kate (Int) also noted how challenging it could be being a sole clinician, and the positive impact of support for developing the service where she was working. This had enabled significant growth to occur in the adult caseload within her department.

Interestingly, despite the challenges faced by clinicians in changing the status quo, Cassie (Int) stated that this was also one of the benefits of her position. Autonomy and freedom (Cassie: Int) allowed clinicians to make the service their own, and push the boundaries (Cassie: Int) for what could be achieved.

In positive and negative ways, departmental history could affect a clinician both on a personal and professional level, as it could establish stereotypes of the profession with other team members. It therefore also had the potential to affect service provision to patients with dysphagia following stroke. This needed to be considered when looking at the manner in which dysphagia assessment was undertaken within these services. Speech pathology within the acute medical context is discussed in more detail in Chapter 13.

10.2 THE SPORADIC NATURE OF ACUTE SERVICES

Like the clinicians interviewed in Phase One, the clinicians in Phase Two all spoke of the sporadic nature of the acute caseload and the impact on the services they could provide to patients with dysphagia.

Swallowing ... comes in waves ... I had a month where I didn’t see any hospital clients, and then I saw 3 ... initial assessments in one week. (Julie: Int)

Look, there are days where ... all the priorities can be seen, and there are just times where ... it’s chaotic and not all the [priority] ‘A’s are being seen, so it does vary. (Erin: Int)

When peak times occurred, clinicians reported juggling their commitments to manage patients with dysphagia. This could result in another patient missing out, or the clinician themselves feeling pressured and stressed’ (Celia: Int).
To manage the sporadic acute caseload, the most frequently used strategy was dedicating time to the area. Within Erin’s (Int) service, this meant that one clinician purposefully kept a flexible timetable so that she had the capacity [to] ... go up and see them, and therefore meet the demands of the acute load.

For the smaller services with fewer acute admissions, time set aside as a small block during the day was sometimes used as a strategy. The risk for some services, however, was that during quieter times, that time would be absorbed by other parts of the service. For example, Celia (Int) commented: You do tend to fill up the time that you had previously set aside ... specifically for ward work ... and then if the referrals start coming in, then it is the high peak time when you’ll be stressed.

The unpredictable nature of the acute caseload posed challenges in how best to manage it. This was particularly an issue for sole clinicians with mixed caseload services, where there were competing demands for their time and attention. The sporadic nature of the acute caseload could affect how and when an acute client could be seen within a service context. As briefly alluded to in Phase One, it could also affect other clients on the caseload, and affect the speech pathologists themselves through increased periods of stress and demand. This unpredictability needs to be acknowledged when considering the manner in which speech pathologists provide an acute dysphagia service.

10.3 SUMMARY

This section has provided evidence of the importance of context in understanding the provision of dysphagia services. Departmental history, recruitment and retention issues and the sporadic nature of an acute medical service must be taken into account when considering the provision of dysphagia services. Many of these issues are recognised in the rural health literature and are unlikely to be resolved in the near future. They therefore need to be acknowledged when discussing speech pathology practice within this context.
CHAPTER 11
WHAT HAPPENS WHEN THE SPEECH PATHOLOGIST IS PRESENT?

This chapter presents the dysphagia assessment process undertaken when a speech pathologist was present, as described by the clinicians interviewed in Phase Two of the study. For simplicity of presentation, the process has been broken down into generic steps involved in managing a patient with dysphagia within the acute medical setting (Figure 11.1).

A description is presented of each part of the assessment process and issues raised within the Phase Two interviews and Phase Three focus groups. These results are discussed with reference to the Service Type classification developed in Phase One of this study.

The clinicians individually interviewed were asked to describe the process that would occur within their service when a patient was admitted following a stroke. The informants were encouraged to describe where they perceived breakdowns to occur in this process, and possible underlying reasons. A similar format was used when discussing breakdowns in the assessment process within the focus groups.

It should be noted that although each component is presented sequentially here, there was much overlap between the steps in this process, and several over-arching common issues are integral to understanding the process as a whole. From Phase One of this study, it was argued that context plays a large role in how processes occur within the clinical setting. This is indeed no less the case when considering the data from the Phase Two interviews and the Phase Three focus groups. To this end, a presentation of the themes arising from the data overall is undertaken in Part Five.
Figure 11.1 Generic steps in the dysphagia management process
11.1 REFERRAL TO SPEECH PATHOLOGY

Obtaining a referral from other staff for speech pathology input was highlighted by the majority of informants in Phases Two and Phase Three as one of the main areas of breakdown in the assessment process. Only two of the seven clinicians from Phase Two reported being satisfied with the current referral process within their service. It should be noted that both these services were part of a pilot program focused on improving clinical processes for patients admitted with a stroke. Table 11.1 illustrates content analysis of the manner in which referrals were received in each of the Phase Two services.

The most common form of referral was written, via fax, email or a notice left on the ward. This was followed by the use of phone calls or voice messages. One clinician also reported use of a pager to receive notification of new referrals. All clinicians using these methods noted that they don’t get detail (Cassie: Int).

Physically visiting the ward daily and actively seeking referrals from ward lists and staff was also utilised, especially by clinicians in Service Types 4 and 5. Clinicians within these service types by definition had more time available for the acute caseload, and therefore undertook ward visits even when referrals were not made. This regular attendance in the wards resulted in the speech pathologist being perceived as having a presence. Even clinicians who did not make regular visits to the ward daily noted the effect of presence on generating referrals. It allowed verbal confirmation of referrals and direct access to medical histories to obtain necessary patient information. Several clinicians spoke of the importance of proactively building rapport with staff specifically in order to improve referrals. Being seen on the wards often prompted nursing staff to make referrals when I’m passing … in the hallways (Sue – Int). As Kate (Int) observed: We’re on the wards a lot … so people start to really expect you and… put in appropriate referrals.
Table 11.1

*Processes of referral identified in Phase Two interviews*

<table>
<thead>
<tr>
<th>Service Type</th>
<th>Process of referral</th>
<th>Main referral sources</th>
<th>Breakdown and issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>fax</td>
<td>• Nursing</td>
<td>• Limited information provided with referral</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Other allied health</td>
<td>• Nursing staff not referring due to history of no SP</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Medical (via nursing)</td>
<td>• Untimely referral</td>
</tr>
<tr>
<td>1</td>
<td>fax</td>
<td>• Nursing</td>
<td>• Limited information provided with referral</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Medical (via nursing)</td>
<td>• Fax machine located in different building from SP dept</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Another form for nursing to fill out: slow “paper trail”</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Nursing staff not referring due to history of no SP</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Untimely referral</td>
</tr>
<tr>
<td>2</td>
<td>Phone call to mobile or community health phone, and written referral</td>
<td>• Nursing</td>
<td>• Often occurs in middle of night (voice message)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Other allied health</td>
<td>• Limited information provided with referral (I don’t get detail)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Medical (via nursing)</td>
<td>• Untimely referral</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Kitchen staff</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Email, paper, phone message</td>
<td>• Nursing</td>
<td>• Untimely referral</td>
</tr>
<tr>
<td></td>
<td>Trying to introduce new electronic system</td>
<td>• Medical (via nursing)</td>
<td>• Unclear process</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Other allied health</td>
<td>• Nursing resistance to new system, particularly use of another form</td>
</tr>
<tr>
<td>4</td>
<td>Physically visits wards each day to collect referrals</td>
<td>• Nursing responsibility</td>
<td>• Satisfied with process of blanket referrals for stroke as per clinical pathway</td>
</tr>
<tr>
<td></td>
<td>Phone call from other wards</td>
<td>• Anyone can refer</td>
<td>• More timely referrals since introduction of pathway</td>
</tr>
<tr>
<td>5</td>
<td>Physically visits wards each day to collect referrals, phone calls</td>
<td>• Nursing</td>
<td>• Doesn’t feel clinical pathway always works, <em>doctor specific</em></td>
</tr>
<tr>
<td></td>
<td>Checks ward list daily</td>
<td>• Medical</td>
<td>• Untimely referral can be an issue, but improving</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Other allied health</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Kitchen staff</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Physically visits wards daily, paper referral</td>
<td>• Nursing responsibility</td>
<td>• Satisfied with process of blanket referrals for stroke as per clinical pathway</td>
</tr>
<tr>
<td></td>
<td>Pager or phone calls</td>
<td>• Anyone can refer</td>
<td>• More timely referrals since introduction of pathway</td>
</tr>
</tbody>
</table>
For all clinicians interviewed, the most commonly reported source of referral was nursing staff (see Table 11.1). Although medical staff were a source of initiating referrals, nursing staff were likely to be the ones who generally act on it all (Claire: Int). This was because the smaller hospitals were more reliant on visiting medical services, with the nursing staff being responsible for the hospital’s day-to-day activities. When referrals had not been initiated by medical or nursing staff, kitchen staff might signal to the speech pathologist that a patient might need to be seen, based on a modified diet request by someone other than a speech pathologist. For example, Sue (Int) estimated that a third of my referrals come from the diet aides. For some clinicians, kitchen staff were seen as an important backup in the referral process.

Indeed, there was general consensus that referrals from all sources were accepted by the clinicians in this study, in an effort to ensure that all patients were appropriately managed. This was often in contrast to other allied health within a service, who might have restrictions on which staff members were authorised to refer to their departments. Kara (FG) stated her rationale for adopting an open referral policy:

> The idea around that only doctors can refer to speech pathologists was something that was implemented here prior to me starting this position and I quickly threw that one out the window because I had a nurse who waited 3 days and begged and begged the medical team to refer to me, by which stage the patient had a lovely big pneumonia. So I thought that doesn’t need to happen any more so I’ll accept referrals from anyone. (Kara: FG2)

Several points in the referral process were highlighted by the clinicians as particularly problematic. There were also some points which were viewed as successful in facilitating the process. Table 11.2 provides a summary of these points.
Table 11.2

Key points for referral processes

- Process needs to be part of larger system (pathway) to be effective
- Speech pathologist needs to be part of the team for referral to be considered
- To be part of team, speech pathologist needs to be present on wards and actively seek opportunities to increase rapport and awareness
- All members of the team need to be able to refer
- There must be a clear and simple process in place for referral to be successful
- To do all the above:
  - need some consistency in speech pathology staffing
  - need time and resources
  - speech pathologist needs to want to increase referrals and also have time to respond to them

Differences were evident in the way services approached generating and receiving referrals, and a clinician or department’s caseload focus could influence the manner in which referrals were sought. This could especially be the case for the smaller Type 1 and 2 services, for whom historically the majority of the caseload had been paediatrics. Unless a speech pathologist within that service had a particular interest in adult work, it could be a matter of passivity or reactivity in obtaining referrals. This contrast is illustrated below, with Julie having a stronger interest in paediatrics and Claire keen to develop the adult side of her caseload.

*I don’t go up there looking for people. So I am only ever aware of them if someone highlights their need to me... It’s always a bonus if I don’t have to go and see the [adult] clients.* (Julie: Int)

*We’ve started discharge planning meetings. So all of the allied health staff will go up and sit around with community nurses and the nursing unit manager and nurses ... and discuss whoever is in the hospital ... They have to talk about all the clients and we go “Why didn’t you see me?”. So that’s really helping with the education.* (Claire: Int)

The physical process of making a referral was contingent on two important aspects. The first was the referral source’s awareness of when a referral was appropriate. The second was the referral source’s willingness to make that referral. The latter issue was highlighted as one of the major points of breakdown for clinicians of all service types in both Phase Two and Phase Three of the study.
Medical staff within some services did not always approve of others making dysphagia referrals, and did not always see the need for speech pathology intervention. Kara (FG) commented that: *G.P.s\textsuperscript{16} appear to have their own way of dealing with people with strokes and sometimes that doesn’t include referral to a speech pathologist at all*. It could then depend on another health professional’s individual judgement as to whether a patient required a dysphagia service or not. For the Type One services, this decreased awareness of the role of speech pathology and what constituted an appropriate referral might have been a consequence of other professionals having to manage for a prolonged period in the absence of a speech pathology service.

Following on from this awareness and willingness was the level of priority afforded by other team members to making the referral. The physical act of writing and sending a referral could also pose a challenge within a busy hospital setting. For smaller services such as Type 1, 2 and sometimes Service Type 3, where nursing staff completed all the paperwork, an additional form to fill out might be a factor in how promptly a referral was processed. Time factors combined with limited insight into speech pathology practice could also result in insufficient information being provided with the referral. This made the next step of prioritisation challenging.

For some services, the lack of clear process for physically making the referral meant that referrals could be slow to reach the speech pathology department. When there were *lots of different ways for the ward staff to refer*, it could result in the referral system being *really inconsistent* (Celia: Int). Unless a formal process was in place, delays in receiving referrals could occur. Timeliness of referral had a flow-on effect to how promptly a patient could then be seen for assessment. As Claire reported, this was a particular consideration in meeting stroke clinical guidelines.

\textit{It can be a day before ... that [referral] process is done so your 24 hours is gone. You’ve lost that Stroke Guidelines opportunity and that’s before it’s even on my desk ... And then I have to fit it in so that’s generally the next working day possibly. [It] starts to get a bit late.} (Claire: Int)

For some services, the use of stroke clinical pathways was described as a way of improving the overall process of care. For pathways to be successful, however, they needed to be adopted and accepted by the organisation as a whole. Within some services, varying acceptance of steps in the pathway or failure to identify a stroke on

\textsuperscript{16}G.P. is an abbreviation for general medical practitioner. In smaller Australian hospitals, G.P.s act as Visiting Medical Officers as well as providing general services in medical clinics external to the hospital.
admission and commence the pathway process were among the challenges faced. This resulted in guidelines, such as dysphagia referral and assessment within 24 hours of admission, not being followed. This was discussed as a problem in Phase Two and Three:

*If they’ve had a stroke we are supposed to have an immediate blanket referral system. ….The breakdown is of course where a person has had an incorrect diagnosis. Or hasn’t been documented appropriately and if people simply don’t follow that referral process and we are not informed, that then has the knock-on effect … So it does have wide ranging implications and it does happen on a semi-regular basis, despite attempts to increase the training and do all sort of things.* (Melissa: FG1)

However, some clinicians reported successful implementation of stroke clinical pathways within their organisations. This had resulted in improvements in many of the issues surrounding referral to speech pathology of patients admitted with a stroke. In these services, the clinicians felt that the pathways facilitated more timely and appropriate referrals, thereby improving patient care. They also felt that the guidelines improved the profile of speech pathology generally within their organisations. Kate (Int) reported the effect of a pathway within her service:

*I was quite shocked when I started here because... there wasn’t ...a definite referral process that happened. It was kind of a bit haphazard. …None of that protocol was in place. So [the clinical pathway has] made a huge difference and it works really well... We still do the same sort of assessments; we still try and see the patients as quickly. But I guess it means we get the referrals quicker; it just happens...like automatically that a referral is generated if someone comes in with a stroke.*

Indeed, in terms of improving the process of referral, it could be argued that a whole-organisation “systems” approach is required if a clinical pathway is to be successful (NHMRC, 1999). These results are consistent with the stroke literature generally, which advocates the use of clinical pathways and guidelines to improve the consistency and quality of care and ensure that referral to allied health is undertaken in a timely manner (Lindsay et al, 2008; National Stroke Foundation, 2006). This is especially important for services that may not manage stroke patients on a frequent basis (National Stroke Foundation, 2006). Duckett (2007, p.111) noted that the use of multi-disciplinary care plans provides “increased opportunities for the various health professions to articulate and demonstrate the contributions they can make to improving outcomes or increasing efficiency in hospitals” and thus facilitates role recognition of
all health professionals involved in caring for the patient. This need appeared particularly important in smaller services where recognition of the speech pathologist’s role in stroke care was sometimes limited.

The evidence presented here illustrates that the referral process relied on many factors, some within and some beyond the speech pathologist’s control. It could be argued that better resourced service types could afford to be more proactive in seeking referrals. Adult acute admissions formed a larger portion of their caseload and there were more resources dedicated to the service. This contrasted with the Type 1, 2 and 3 services, which had a history of frequent staff changes and long periods without any speech pathology input at all. Other staff might have stopped referring to the service when they were unsure what was available. A sole clinician in a busy generalist position might not have the time or resources to spend seeking referrals or increasing the speech pathology profile in the acute wards. If they did, who would see the clients? But if they did not, who missed out and what were the outcomes for those patients?

### 11.2 PRIORITISATION AND RESPONSE TO A REFERRAL

Consistent with findings from Phase One, it was acknowledged by all the clinicians interviewed that dysphagia referrals were of high priority. To meet the current practice guidelines of response and assessment within 24 hours, prioritisation of patients admitted with stroke was necessary. The way in which this played out in reality, however, could vary.

#### 11.2.1 Prioritisation

A common point of breakdown in prioritisation could be traced back to the referral stage, and was briefly discussed in Section 6.3.1. Prioritisation was reported as often difficult because of lack of information provided in the referral. This lack could be due to other professionals’ limited knowledge of dysphagia and the speech pathologist’s role, including the information required to assess a patient. For example: *A straight email that says “Bed 5, in this ward, you need to see them”. So you’re not getting any prioritisation information from that* (Celia: Int).
Appropriate prioritisation could only be made from an appropriately detailed referral. This often required obtaining information to determine how urgent a referral was. This was done either in person or by phone, through talking with the referral source and team, and reading the medical history. Table 11.3 summarises the strategies used by clinicians in Phase Two to prioritise patients with dysphagia.

Table 11.3

<table>
<thead>
<tr>
<th>Service Type</th>
<th>Strategy for prioritising acute clients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Julie 1</td>
<td>Saw patients on referral only. Had a flexible block of time each day, only saw patients within that time. Missed lunch if necessary.</td>
</tr>
<tr>
<td>Claire 1</td>
<td>Saw patients on referral only, cancelled/moved other clients if necessary</td>
</tr>
<tr>
<td>Cassie 2</td>
<td>Saw patients on referral only, before/after hours if necessary, cancelled/moved other clients if absolutely necessary</td>
</tr>
<tr>
<td>Jane/Celia 3</td>
<td>Had flexible time throughout the day (between outpatients), cancelled/moved other clients if necessary</td>
</tr>
<tr>
<td>Kate 4</td>
<td>Time available throughout the day</td>
</tr>
<tr>
<td>Sue 5</td>
<td>Most of day spent on wards</td>
</tr>
<tr>
<td>Erin 5</td>
<td>Someone available during the day, determine as a team who will see patient. Formal prioritisation system.</td>
</tr>
</tbody>
</table>

Although all clinicians spoke of prioritising, systems varied from a basic acknowledgment that dysphagia would be seen first to a more complex and detailed breakdown of which patients within the acute wards should be seen before others. As with the results reported in Phase One, the complexity of these prioritisation systems reflected the underlying set-up of the service, and corresponding caseload demands. This was evident when comparing the prioritisation systems employed by Julie (Int), who was based in a Type 1 service, and Erin (Int), who was based in a Type 5 service.

Julie had a two hour block each day that was nominated as *acute time*. Within that period she needed to attend to any acute work as well as have her lunch break. If there was more than one case to be seen, prioritisation was undertaken on a case by case basis. Lunch was the first thing to miss out, followed by review clients and, if absolutely necessary, community health appointments. Julie described an occasion on
which she had three referrals to attend to, and the obligation she felt to see all of them. She spoke of learning from this experience what was possible within her caseload:

*I saw all 3 at once, because I thought I was obliged to see all three. That’s very rare. ... I try and prioritise them. So if it’s an initial I see them first because the other people, they ... have already been put on diets and that can wait a little bit longer.*

In contrast to this case by case scenario, Erin had a formal system in place to manage acute referrals. The more complex and detailed prioritisation system that she described perhaps reflected the greater number and complexity of the acute caseload within her service. Erin spoke of the detailed written system in place to help guide clinicians in determining their priorities for the day.

*[Patients with] communication [needs] in our priority system [are]... our Priority B. ... Priority A is the new dysphagia referral, [and] anybody that you have ... changed their diet the previous day ... And if it’s somebody who has ... been on a modified diet for three days or so ... then they would be a lower priority ... All the staff that are working on the wards they collect all the referrals in the morning ... and ... prioritise on what information you can get and go from there.*

In the literature, speech pathologists have been observed to “consciously or unconsciously” (p. 143) use prioritisation systems to manage their caseloads (McAllister, 1995). Although all clinicians in this study spoke of dysphagia being highest priority, the time frame in which referrals could be attended to varied between services, and the systems in place varied in terms of how specific they were. Smaller services such as Types 1, 2 and 3, because their acute work was less frequent, might see a general dysphagia referral as a priority. They might not have as specific a prioritisation system in place as that seen in Service Type 5. This allowed them to make decisions based on the individual case in the context of their other caseload demands at the time. This arrangement was a reflection of the resources and other caseload considerations within each service type, and could involve consideration of outreach clinics as well as on-site outpatients. The effects of this prioritisation on service delivery and resource allocation are discussed further in Chapter 14.
11.2.2 Response Times

Optimal response time for an acute dysphagia referral following a stroke was acknowledged by all clinicians in Phase Two and Three to be within 24 hours of admission. This was consistent with current Australian practice guidelines as published by the National Stroke Foundation (2007). Clinicians noted that *when it’s a CVA ... something ... needs to happen within the 24 hours according to the Stroke Guidelines* (Claire: Int).

An understanding of what was considered to be best practice, however, did not always result in the guidelines being implemented. Results from Phase One highlighted that although clinicians might consider assessment or screening within 24 hours of admission to be best practice, this timeframe was not always adhered to within departmental policy documents or practice. Several reasons were suggested by clinicians in Phase Two and Three of the study for the difficulties experienced in meeting the expectation of assessment within 24 hours of admission. The first related to the referral process, as discussed in Section 11.1, and how quickly this was initiated. Delays in receipt of the referral could have a significant impact upon seeing a patient within a given time frame.

Consistent with responses from Phase One, caseload and outreach commitments also made meeting these response times difficult. In Phase Two, this was highlighted by Service Type 1, 2 and 3 clinicians as a major point of distinction between larger hospitals and their service. For example, Julie (Int) could see dysphagia patients between 12 noon and 2 p.m. only, on the days she was on site. Therefore, if a referral was not received during the morning, the patient would have to wait until the next on-site 12 noon to 2 p.m. slot was available. In some cases, this could be up to 5 days. Julie (Int) conceded:

*I sort of had to throw away some of the things that I accepted as ... minimum standard, like ... screening within 24 hours, having a nice little bag to carry around and doing swallowing assessments then and there. I’ve had to modify the way I provide the service so.... I can only see them at lunch times. If I don’t see them then, they don’t get seen until the next day.*

This resulted in patients being assessed *as soon as able* (Julie: Int; Claire: Int). Consistent with the findings in Phase One, clinicians also mentioned the challenge of meeting assessment response times over the weekends and public holidays.
Weekend services were not available in any of the services interviewed. Some clinicians had begun to investigate options such as weekend cover and screening procedures as a method of achieving these guidelines. This is discussed further in Chapter 12.

There was overall agreement that the issue needed to be addressed and systems developed to improve current processes. Some saw the National Stroke Guidelines (2007) as an opportunity to aid this process and develop options suitable for their particular service type while still achieving the target. Consistent with the literature on effective implementation of guidelines (e.g. NHMRC, 1999), it was felt that this needed to be part of a larger clinical pathway project at a service level to be successful.

_I think it all still should be at 24 hours is optimal and then people can sort of cross out and go, “OK we don’t have speechie within 24 hours. We can’t achieve that so we know that our Step One is a dysphagia screener and we’ve got that. And Step Two is ... contact our speechie and we know how to contact our speechie. Step Three is to have speechie come and assess and follow their guidelines”.... Pathways would be nice._ (Claire: Int)

Consistent with Phase One results, it could be argued that within some services, although dysphagia was of high priority in theory, this did not always systematically translate to management processes. For some services it appeared that dysphagia might be described and even documented as a priority, but the organisation of the service and the practice within that service suggested otherwise. This was reflected in the resources allocated to the acute portion of the caseload and the subsequent manner in which responses to a referral could be made.

This was concerning from a medico-legal perspective, where timeliness of assessment and management have been noted as important considerations in the appropriate care of the patient with dysphagia (Tanner, 2003, 2006, 2007, 2009). To attend to a patient with dysphagia as a priority, it was acknowledged by all the clinicians that someone or something else had to miss out. Who missed out was dependent on the manner in which the service was organised. A prioritisation system was a tool to manage demand and assist in meeting response times for patients following stroke. It provided a way for clinicians to justify seeing these clients rather than others, thereby allowing them to meet specified response times. Exactly who missed out is discussed in greater detail in Chapter 14.
11.3 THE CLINICAL BEDSIDE ASSESSMENT

To understand the clinical bedside assessment and how it was undertaken, it is important to think back to the type of service within which the assessment was provided. In this section, some key points in the overall assessment process are described. This is followed by discussion of the use of standardised assessments. Other tools used at the bedside are also presented.

Table 11.4
Summary of tools used in the clinical bedside assessment

<table>
<thead>
<tr>
<th>Clinician</th>
<th>Service Type</th>
<th>Use of proforma or guide</th>
<th>Use of other tools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Julie</td>
<td>1</td>
<td>Used form developed on metropolitan placement at university. Also made notes to guide her report.</td>
<td>None mentioned</td>
</tr>
<tr>
<td>Claire</td>
<td>1</td>
<td>Used form developed at last job (large regional service).</td>
<td>Recently undertook cervical auscultation course.</td>
</tr>
<tr>
<td>Cassie</td>
<td>2</td>
<td>Used Royal Brisbane Dysphagia Assessment tool</td>
<td>Recently undertook cervical auscultation course.</td>
</tr>
<tr>
<td>Jane/Celia</td>
<td>3</td>
<td>Used hybrids and whatever each clinician felt comfortable with. Didn’t always follow written guide.</td>
<td>Contemplating introduction of cervical auscultation.</td>
</tr>
<tr>
<td>Kate</td>
<td>4</td>
<td>Did not use written guide. Variety of forms available in department for others to use if desired.</td>
<td>Was about to undertake course in cervical auscultation.</td>
</tr>
<tr>
<td>Sue</td>
<td>Type 5</td>
<td>Modified form from a previous job, based on Maggie Lee Huckabee’s protocol. Had internalised it.</td>
<td>Used cervical auscultation, pulse oximetry.</td>
</tr>
<tr>
<td>Erin</td>
<td>Type 5</td>
<td>Tool developed by department</td>
<td>Department were looking at evidence base for cervical auscultion.</td>
</tr>
</tbody>
</table>
Clinical bedside assessment tools used by each of the clinicians in Phase Two are summarised in Table 11.4. Some similarities can be seen with the findings from Phase One (Section 8.1.3), which reported frequent use of proformas developed at a departmental level or by another hospital, and a proportion of clinicians not using any form of written proforma.

11.3.1 Undertaking the Clinical Bedside Assessment

Clinicians were asked if they utilised a proforma to guide them when undertaking a clinical bedside assessment. As in to Phase One, results were mixed, with clinicians from Service Types 1, 2 and 5 using them, but other clinicians not routinely using such forms. There appeared to be two groups emerging within the clinicians interviewed: those who felt that proformas facilitated the undertaking of assessment the “right way” and those who preferred to utilise what they felt comfortable with. Each clinician had reasons for undertaking assessment in the manner she did. The first group of clinicians identified reported utilisation of a structured proforma on a regular basis to guide their clinical assessment. The use of this approach did not appear limited to service type or years of experience, with Julie, Claire, Sue and Erin all reporting use of such a tool.

Clinicians felt that by using this structure they ensured that patients with dysphagia received an efficient, comprehensive assessment. A proforma could be seen as a written prompt of a quality process, or a quality process itself. In this way, it could be written, or in the case of more experienced clinicians, could be internalised. This systematic approach ensured that the clinician did not become a little bit forgetful of things (Claire: Int) in the context of a busy schedule, and it allowed more focus and control. Sue (Int) explained her justification for being systematic in her approach:

I’ve had enough captures where I haven’t thought I needed to check this and then I’ve found 2 days later that’s something I should have checked. And so you’ve just got to make sure because you’re not that good that you can pick up on slight, subtle, sensory or motor nuances. You’ve got to be careful if you want to do it effectively.

In contrast, clinicians of the other persuasion spoke of using what they felt comfortable with. Cassie, Jane, Celia and Kate all commented on clinicians within their
services using either their choice of a *hybrid* (Jane: Int) of assessments, or undertaking the assessment in a format that they felt appropriate. There was no one protocol guiding assessment. Kate (Int) said:

*I’ve done so many swallowing assessments … I don’t feel like I need to tick the box. It’s probably not good to be in that habit … You probably cut corners, but then … sometimes you have to … depending on the patient … Probably what underlines my theory is: I like to write comprehensively in the notes, rather than refer people to a form, because I just don’t think people look at them.*

Kate’s rationale for not using a proforma seemed to relate more to the presence of a piece of paper in the medical file, rather than consistency in clinical assessment. Interestingly, clinicians who did not consider use of a proforma warranted for their own practice saw the potential benefits of such a tool for new graduates and students within their services, with Celia (Int) commenting:

*I think standardisation is good … I also think that it helps for new grad type positions … using something that you know is used at other hospitals. Then you know that you’re not missing things. So I think it’s useful … but I’m happy to have developed your own techniques.*

Sue was quite specific as to why she felt such a tool would be benefit all clinicians.

*I can understand how [for] language … you need to be a lot more fluid and creative because you’ve got to be able to probe and dig deep … And you can’t standardise human thought. But… swallowing responses… that’s sort of standard … And I can’t see how [a standardised proforma] can’t be useful for everyone.*

Interestingly, throughout all the interviews little attention was given to the specifics of what such a form or process should contain, despite the researcher prompting for such information. This perhaps reflected that the clinical assessment was not an area of particular concern for the clinicians interviewed. However, research undertaken in several countries (Canada, the United States, Ireland and the United Kingdom) has suggested that this is an area that requires greater consideration. Inconsistencies have been found between clinicians in what they think important and what they include in the clinical assessment (Bateman, Leslie & Drinnan, 2007; Martino et al., 2004; Mathers-Schmidt & Kurlinski, 2003; Pettigrew & O’Toole, 2007). Variation has also been reported in clinical assessment from patient to patient.
Thus, as noted in Chapter 2, the use of structured assessment is strongly supported in the literature (Daniels, 2000; Fisher, 2004; Groher, 1994; Murray, 1999; Smithard et al., 1998). According to Bateman et al. (2007), use of structured assessment facilitates consistent practice essential to “ensure that dysphagic patients receive equal care” (p. 175). It has also been suggested that the use of protocols generally might have a positive effect on the quality of care, as it encourages use of the evidence base for service provision (Duckett, 2007). There is still significant debate generally surrounding the form of standardised assessment. Although there may be an argument for the benefits of standardisation, findings of this research suggest that implementation and acceptance of such guidelines may be a challenge.

11.3.2 Use of Cervical Auscultation and Pulse Oximetry Within the Clinical Assessment

The clinicians interviewed were acutely aware of the limitations of the clinical bedside assessment. To maximise the information gained at bedside, most of the clinicians expressed an interest in or reported use of cervical auscultation as an adjunct to the clinical bedside assessment. A smaller number mentioned the use of pulse oximetry. As with the results of Phase One, the latter tended to be limited to Service Type 5.

The practical aspects of learning how to use new tools were raised. As cervical auscultation was not a skill that had been taught at university, it was something for which most of the clinicians had had to attend workshop training. It was also acknowledged that it was a subjective skill and challenging to master, especially for a sole clinician with no access to videofluoroscopy and no colleague with whom to compare interpretations. Significant amounts of practice were required if mastery was to be accomplished. This was difficult if the clinician did not assess acute dysphagia patients on a regular basis.

Although some clinicians utilised these tools as part of their assessment, they were also forthcoming in recognising the limitations that were presented in Chapter 2. They noted that the evidence base for cervical auscultation and pulse oximetry was still limited, and as such, these adjuncts to the clinical bedside assessment were to be
approached with caution. Erin (Int) reported that within her department, *instead of sort of just going ahead and implementing those sorts of things ... we need to... find out the evidence for this and use that in making our decisions as to whether or not we’re going to do it.*

Consistent with Phase One results, there was broad interest from the clinicians interviewed in adopting techniques such as cervical auscultation and pulse oximetry as an adjunct to the bedside assessment in their everyday practice. However, this was constrained by limited opportunities for development and training of the skill as well as the limited evidence base as presented in Chapter 2. The variable adoption of these tools reported here was similar to that reported in other studies of clinical assessment (Bateman et al., 2007; Mathers-Schmidt & Kurlinski, 2003).

11.3.3 The Role of Previous Experience in the Clinical Assessment

Nearly all of the clinicians interviewed spoke of their clinical assessment and what they did in practice as being significantly influenced by what they had been taught early on their careers, either at university or on their clinical placements or first job. As Sue (Int) said, *I follow the format that I first learnt, which is what we all tend to do.* Overall, they commented that this learning influenced what they reported to do more than did the current literature base.

Learning from colleagues was reported to be a source of skill development. Claire (Int) said that she was happy with her assessment because at her old job *we all watched each other and picked up bits from each other ... I’ve got ... other people’s ideas about it all and so have moulded those all into my style, making sure I include it all.* She felt that this process had contributed to her competency. Some clinicians, especially from sole clinician positions, maintained their skills by continuing links with a previous workplace, even if it was on a less frequent basis. The use of colleagues in developing an assessment style raises the issue of what happens for clinicians who are in a sole position from the time of graduation. Who do they learn from on a day to day basis? When links have not been as firmly established and base skills reinforced, this
became more challenging. Julie (Int) observed that *What I learnt at Uni[versity] and what I learnt on my prac[tical placements] from people who had many years experience in swallowing, ... I still think about and still adhere to, but other than that ... I find it really hard.*

Previous experience and colleagues had the potential to substantially influence how a clinician undertook the dysphagia assessment. This has implications for the way in which the evidence base was used within current practice. Martino et al. (2004) found that clinician experience and teaching institution influenced utilisation of components of the clinical assessment. To the researcher’s knowledge, few studies have specifically investigated the influence of colleagues in the development and maintenance of dysphagia assessment skills. However, this study has demonstrated that for the clinicians interviewed, peers were influential. Reliance on peers alone is not necessarily the most effective manner with which to develop and maintain skills. The results presented here raise the issues of consistency of practice and ensuring that clinicians are adopting skills based on current evidence. Whitehead (1994, p. 14) advised that there should be an “investment in training so that professionals keep up to date with what is known about effectiveness of specific interventions”. This becomes imperative from equity and ethical perspectives, in terms of maintaining quality of care.

11.3.4 Clinical Assessment: “It’s not me, it’s them.”

One of the most interesting features noticed when looking at the data was the manner in which the clinical assessment was discussed by the clinicians during the interviews. As noted in Section 11.3.1, none of the clinicians interviewed identified the performance of the clinical assessment itself as their primary point of concern. For most, the clinical assessment was something that they felt quite capable of doing (Julie: Int) and could control. It was the factors surrounding this assessment that posed challenges. *Not in the ideal situation, but with what I’ve got I’m quite happy to do it and feel comfortable... I’ve always done it the same way and I will continue to do it that way ... It’s not me – it’s them!* (Julie: Int)
As reported in Section 11.3, clinicians in this study did, however, recognise the limitations of the clinical assessment overall in terms of the evidence base. This sometimes made their clinical practice challenging when few other resources were at their disposal. It was commented by several clinicians in Phases Two and Three that the literature doesn’t support what’s real life ... I don’t think [it] supports clinical bedside assessment. The focus isn’t on that as much as it could or should be, given the reality of our work. (Melissa, FG1)

This was particularly frustrating when developing and maintaining a role as a professional who is expert within an area with limited resources. As Kate (Int) pointed out:

*You have intuition and you have a range of things at your disposal, but it’s not foolproof by any means ... and you feel like “Well, you’re the expert, you’re supposed to be able to provide ... an accurate assessment”, and the consequences can be so bad if you get it wrong.*

For the clinicians interviewed, assessing a patient following acute stroke required more than simply being competent to undertake a clinical assessment. The assessment component was the one aspect over which clinicians felt that they had control in the management of a patient following acute stroke, and it did not appear to be an area of particular concern for those interviewed in Phases Two or Three. Rather, their concerns related to how their assessment and the speech pathology role was undertaken within their particular context.

### 11.4 VIDEOFLUOROSCOPY

*Videofluoroscopy ... When you’re dealing with a population that has a lot of dysphagia ... it is really the ... gold standard of care anyway.* (Erin: Int)

Subsequent to the restrictions reported in Phase One of the study (Section 8.1.4.1), clinicians in Phase Two were asked about their access to videofluoroscopy and any restrictions they experienced in accessing it for acute stroke patients. Discussion was also undertaken regarding the perceived impact of having or not having videofluoroscopy on the management of patients with dysphagia. In this phase, the aim was to develop a better understanding of the impact of these restrictions on clinical practice.
Many of the restrictions mentioned in Phase One were reiterated in the Phase Two interviews, and were further supported by the clinicians involved in the Phase Three focus groups. Confirming the findings from Phase One, equipment was the most frequently discussed issue for clinicians from all service types, in terms of access (including availability) and quality of the equipment. Travel and distance were problems for services which did not have on-site access. The significant travel required to access videofluoroscopy facilities is illustrated in Table 11.5. All travel distances and times were calculated using the map-making function on http://www.travelmate.com.au.

Table 11.5  
*Status of videofluoroscopy service*17  

<table>
<thead>
<tr>
<th>Clinician</th>
<th>Service Type</th>
<th>Experience using VF</th>
<th>Distance to nearest VF (one way, km)</th>
<th>Approximate travel time (one way, minutes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Julie</td>
<td>1</td>
<td>None</td>
<td>58</td>
<td>56</td>
</tr>
<tr>
<td>Claire</td>
<td>1</td>
<td>Yes</td>
<td>102</td>
<td>83</td>
</tr>
<tr>
<td>Cassie</td>
<td>2</td>
<td>Limited</td>
<td>74</td>
<td>62</td>
</tr>
<tr>
<td>Jane &amp; Celia</td>
<td>3</td>
<td>Limited</td>
<td>71</td>
<td>66</td>
</tr>
<tr>
<td>Kate</td>
<td>4</td>
<td>Yes</td>
<td>on site</td>
<td>n/a</td>
</tr>
<tr>
<td>Sue</td>
<td>5</td>
<td>Yes</td>
<td>on site</td>
<td>n/a</td>
</tr>
<tr>
<td>Erin</td>
<td>5</td>
<td>Yes</td>
<td>on site</td>
<td>n/a</td>
</tr>
</tbody>
</table>

As many of the restrictions raised in Phase Two were reported and discussed in Phase One (Section 8.1.4.1), they are not presented here in detail. Instead, examples of comments made by clinicians in the Phase Two interviews which related to these restrictions are used to illustrate the agreement between Phase One and Phase Two findings (Table 11.6).

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17 Service Type 3 reported use of two services: the first was closer in location, but the second was their official service according to health service boundaries.
Table 11.6

Comments from Phase Two regarding restrictions in videofluoroscopy

<table>
<thead>
<tr>
<th>Restriction</th>
<th>Specific Issue</th>
<th>Example of Phase Two comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Availability</td>
<td>Geographical availability, travel and distance</td>
<td>We don’t have that here (Julie)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>It’s that rare for me…[because of] the travel and the cost and the lack of resources and all that sort of stuff. (Cassie)</td>
</tr>
<tr>
<td>Benefit of procedure</td>
<td>Geographical availability, travel and distance</td>
<td>Just making sure it [videofluoroscopy] is what is needed … A lot of the oldies … they’re going to have enough trouble with actual assessment without adding 2 ½ hours of travel. (Claire)</td>
</tr>
<tr>
<td>versus medical risk of</td>
<td></td>
<td>The availability of that [regional videofluoroscopy] service dropped right off. (Jane)</td>
</tr>
<tr>
<td>travel</td>
<td></td>
<td>They’re really time-consuming … So you certainly… don’t do them with everyone. (Kate)</td>
</tr>
<tr>
<td>Accessing other service’s</td>
<td></td>
<td>If I do a video … it takes half a day out because I’ve got to go there as well. (Cassie)</td>
</tr>
<tr>
<td>equipment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equipment</td>
<td>Quality of seating</td>
<td>We use a tiny little chair … that limits what you can do… if someone needs a huge amount of support. (Kate)</td>
</tr>
<tr>
<td></td>
<td>Quality of image</td>
<td>I don’t have a video player… The one I can get access to, … you can only watch it in fast time…The other speechies I’ve worked with here think that’s fine. And I’m like “No … you can’t evaluate it properly that way”. (Sue)</td>
</tr>
</tbody>
</table>

Besides the confirmation of Phase One findings there was also mention of problems surrounding maintenance of skills and expertise, as well as obtaining medical approval, that extended beyond comments by clinicians in Phase One. These are now presented and discussed.

- **Maintenance of expertise and the role of support**

If a clinician was expected to go to another site and perform the videofluoroscopy there were also factors of expertise and support that might need to be considered. As reported in Phase One, when it was not part of a regular caseload,
opportunities to conduct videofluoroscopy were infrequent. This made skill maintenance challenging, and support very important.

For some clinicians in Phase Two, maintaining this expertise was sometimes a source of contention. Jane (Int) found it difficult to justify developing and maintaining the required skills when the procedure was undertaken so infrequently. Her argument was:

*It wasn’t sensible for me to be spending the amount of time that I would need to spend to be able to ... develop and maintain the skills, given everything else that I was expected to do, when we were talking about two or three patients a year.*

She felt that it was more logical for someone working routinely with videofluoroscopy to undertake the study. It made Jane *angry that even the regional centre didn’t understand that expertise issue.*

Erin (Int) was a clinician working within a Type 5 service that often received requests to undertake videofluoroscopies for other speech pathologists’ patients. She was asked if issues of expertise and having to do the procedure could be a limiting factor when a clinician from a facility without videofluoroscopy was considering a referral. She responded, *If there’s that much involved in doing a procedure, you’d probably do it as a last resort.* Despite acknowledging these issues as potential barriers to a patient accessing the procedure, however, she noted that within her service,

*We definitely also have the ... belief that it is an opportunity for people to up-skill and to learn. And that ... it might take a number of... experiences to develop competency, but that’s an opportunity that... is good for regional therapists, as well.*

Kate, from a Type 4 service, echoed Erin’s sentiment. Both Kate and Erin spoke of the significant time needed to do a videofluoroscopy and the related paperwork on behalf of another service. It was *one more thing to squeeze in* (Kate: Int). This had an impact on their own caseloads. Therefore, despite recognising the expertise restrictions raised by clinicians without videofluoroscopy in accessing the procedure, they also found it challenging to provide such a service for others due to their own resource limitations.

Even clinicians who had experience reported that support was beneficial. Having another opinion could facilitate the assessment process. Erin said that in a recent
review of her departmental policy, they decided that it’s preferable that two speech pathologists are there, particularly for junior staff. However, requiring a specified number of clinicians for each videofluoroscopy could restrict when it could be undertaken. It meant potentially waiting longer for the procedure to be done, or juggling other clients to fit it in.

To improve skills in this area and ensure that all clinicians using the equipment were capable of doing so, clinicians from Service Type 5 spoke of the introduction of competency tools. This meant that there was a training package and steps that had to be passed before being considered able to undertake the procedure. For Sue (Int), this tool was being developed at an area-wide level and being driven by a large metropolitan facility. This had the advantage of time and expertise resources to develop the tool. However, it also had some disadvantages in terms of defining what was considered competent. Because Sue had worked overseas as a new graduate she had learned an approach to undertaking videofluoroscopy evaluation with which the speech pathologists within the metropolitan service were unfamiliar. Because of this, she had concerns that according to them, I’m not going to be competent to do modified barium swallows, whereas I know I’m fairly competent at doing them.

A competency package was being developed at Erin’s site, which allowed her department to determine what was considered appropriate. They based many of their decisions on the Speech Pathology Australia position paper (Speech Pathology Australia, 2004), as well as evidence in the area when it was available. Although it might allow more flexibility and applicability to local context, a major disadvantage to developing such tools at the site level was the amount of resources required in terms of time and expertise.

These issues of expertise and support reported within the first and second phase of this study raise some interesting questions. The first of these is: who defines competency? Although national bodies such as Speech Pathology Australia, the American Speech and Hearing Association, the Canadian Association of Speech-Language Pathologists and Audiologists and the Royal College of Speech and Language Therapists might recommend levels of competency that need to be achieved, how these are implemented within the clinical setting and who assesses competency is often unclear, especially within the Australian context. In NSW and Victoria, although area health services may work together on such processes, to the researcher’s
knowledge it is not mandatory that they do so. Even if this were to be the case, it is unclear what happens in cases such as Sue’s when there are differing opinions as to what constitutes competency.

It is evident that clinicians from smaller services found it challenging to maintain skills in videofluoroscopic practice when they had limited access to the facility. Videofluoroscopy has been identified as a specialist skill (Speech Pathology Australia, 2001, 2005a), and it has been acknowledged from an ethical perspective that clinicians should not practise outside areas of competence (Speech Pathology Australia, 2000). The role of better resourced facilities in providing services to patients from other hospitals is one that is common from a medical perspective, but from a speech pathology perspective this process and the associated relationships appear unclear. Limited resourcing for all service types appears to be the main reason that access to facilities is restricted. This situation is compounded by the different individual perspectives and interpretations of solutions and management of this issue. Heightening the awareness of this restriction as an issue and ensuring that open dialogue is undertaken to resolve any conflicting expectations is perhaps a first step towards ensuring that equal access to videofluoroscopy is possible for patients following acute stroke.

- Medical resistance to the use of videofluoroscopy

In Phase One of the study a number of clinicians raised difficulty in obtaining medical approval as a factor restricting access to videofluoroscopy procedures. In Phases Two and Three of the study, it was evident that this restriction was context-specific to facilities and depended on the current medical staff.

There was a general trend for clinicians from Service Types 1, 2 and 3 to report this as a restriction more than those from Service Types 4 and 5. For the smaller services, it was hypothesised that resistance from medical staff might be related to the role of speech pathology being poorly understood and devalued. This was in contrast to Service Types 4 and 5, where the clinicians, perhaps due to having the equipment on site and utilising it more often, had been able to raise awareness of the usefulness of such a tool. It might also be that the role of speech pathology generally within these larger services was more prominent and better understood. The contrast between different service types can be seen in the following quotes from Celia and Sue:
I’ve had resistance from the medical staff ... agreeing to the assessment...but its just about ... trying to get their agreement to the procedure just by saying “Look, I don’t know what else to do, I need this to make a management decision, and if I can’t do that then patient care is compromised”... I think in my experience ... it’s probably not valuing speech pathology as a service initially anyway. (Celia: Int)

I’m now at the stage, if I say I want an MBS, the doctors go “OK”....That’s great. (Sue: Int)

Jane felt that the reasons behind medical reluctance to approve videofluoroscopies might be partially justified. Although she agreed that speech pathology was devalued, she also was aware that the limited evidence base for what speech pathology offered made it challenging to argue the case for the service and its benefits. Indeed, this could be considered a significant challenge.

Medical dominance within the acute hospital setting has been well documented in the literature (e.g. Abramson & Mizrahi, 1996; Hodgson & Berry, 1993; Humphreys & Rolley, 1991; Leipzig et al., 2002). The role of medical practitioners in authorising radiological procedures such as videofluoroscopy has been historical in evolution. To date, the researcher has not been able to source information on the background to this specific practice. However, it was noted that the physiotherapy profession18 in Australia has successfully advocated for the Medicare rights to directly request a limited number of specific radiological studies that are essential to physiotherapy clinical assessment and management (Kruger, 2009, personal communication). This potentially sets a precedent for the consideration of a similar agreement for speech pathologists to be able to request videofluoroscopy, given its importance in the management of dysphagia. This possibility requires further investigation if the restriction in access to videofluoroscopy is to be addressed in the future.

11.4.1 How Videofluoroscopy is Used in Clinical Practice

In light of the noted restrictions to videofluoroscopy, investigation of the impact on clinical practice was warranted. This section presents clinicians’ views on how videofluoroscopy is used within their service contexts.

18 It is acknowledged that to practise as a physiotherapist in Australia, an individual must be registered, whereas speech pathologists in all but one state (Queensland) do not. It is therefore likely that registration of speech pathologists would need to take place to facilitate this process.
11.4.1.1 How Often is Videofluoroscopy Used?

There was a significant difference in the frequency of videofluoroscopy referrals between services with and without on-site access to this facility. This is demonstrated in Table 11.7.

Table 11.7

<table>
<thead>
<tr>
<th>Clinician</th>
<th>Approximate number of VFUs undertaken</th>
</tr>
</thead>
<tbody>
<tr>
<td>Julie</td>
<td>Unknown: only in job 6 months, none to date</td>
</tr>
<tr>
<td>Claire</td>
<td>Approximately 1 to 2 per year</td>
</tr>
<tr>
<td>Cassie</td>
<td>Approximately 1 per year</td>
</tr>
<tr>
<td>Jane/Celia</td>
<td>Approximately 2 to 3 per year</td>
</tr>
<tr>
<td>Kate</td>
<td>Average of 1 per week</td>
</tr>
<tr>
<td>Sue</td>
<td>Approximately 1 every 2 months (able to do VF on only 5 of the possible 14 patients she wanted due to equipment restrictions)</td>
</tr>
<tr>
<td>Erin</td>
<td>Approximately 3 per month</td>
</tr>
</tbody>
</table>

The frequency of videofluoroscopy reflected the service classification and resourcing. Clinicians in services with on-site access had fewer restrictions to face in undertaking the procedure than those who did not have videofluoroscopy on-site. Cassie (Int) commented that her practice was therefore not necessarily consistent with literature in this area, as *that’s not reality* ... *Out of 500 dysphagia clients maybe three of mine would get a video.* Kara (FG2) also commented:

*It was just getting increasingly difficult here to ... do the whole process of videofluoroscopy that I just ... had to rely on bedside signs anyway ... In an ideal world, yes, it would be good to go by the literature ... But in the real world ... it’s just not possible.*

In contrast, Kate reported *probably do[ing] one a week.* Although these figures were likely to also be reflective of the significant differences in the type and acuity of cases, nonetheless, given the comments made by clinicians in Phases One, Two and Three of the study, it has to be considered that the restrictions faced in accessing
videofluoroscopy might limit the number of patients who could have the procedure undertaken when it was clinically indicated.

However, some clinicians argued against the notion of videofluoroscopy being such a significant focus. Restrictions in access were not the only reason for the low frequency of the procedure. For example, Sam (FG2) said: *If you’ve been doing [clinical assessment] for years, ... you do get a good feel for it and I don’t think you need ... a whole lot of expensive testing.*

This opinion contrasts with the literature presented in Chapter 2 and with expert opinion, which promote the use of videofluoroscopy when clinically indicated. Tanner (2006) reported that “too often the videofluoroscopic study is recommended reluctantly” (p. 17), and he advocated that it should be used more liberally, considering its “pivotal role” in dysphagia malpractice cases in the United States. The differences in frequency of use of videofluoroscopy between service types are therefore potentially of concern from a quality of care perspective and a medico-legal perspective (Tanner, 2006). The situation also has implications for the equity of care patients receive and the potential consequences of this inequity for their outcomes post-stroke.

11.4.1.2 Rationale for Undertaking Videofluoroscopy

Rationales underpinning the use of videofluoroscopy were also sought. The clinicians spoke of two main areas: clinical reasons related directly to patient management, and reasons related to supporting and justifying management decisions for a patient to other health professionals within a particular setting. The two rationales for undertaking videofluoroscopy were rarely mutually exclusive.

The main reason clinicians sought a videofluoroscopy was if they thought it had the potential to change the management of a patient. If it was going to change the patient’s quality of life in a positive manner, then it was worth consideration and justification of expense.

*What would you actually achieve by it other than having to be in a vehicle for 2½ hours... Would you be getting any more information, any different medical care? A lot that we’ve had recently just haven’t been suited to that assessment tool but I’d not be hesitant at all for somebody that it would be suited to.* (Claire: Int)
Likewise, if it would facilitate appropriate management in the form of therapy recommendations, then a videofluoroscopy was justified. As Kelly (FG2) stated, *There needs to be a clear clinical question going to a modified barium. If you don’t have a clinical question, then you are wasting everybody’s time.* Erin (Int) highlighted the increased use of videofluoroscopy due to her department’s *commitment to evidence-based practice.* It was felt that the tool could have an *impact on clinical decision making.* She was increasingly aware of the usefulness of videofluoroscopy. Clinicians from Service Types 1, 2 and 3, none of whom had on-site videofluoroscopy, spoke of the need to be *sure* (Cassie: Int) of their clinical decision making. They used the tool as a last resort, to make sure that they had done the *right thing* (Julie: Int). It was therefore used as confirmation of their findings and plan, providing the final say.

If it would improve management through the education of the patient, family, caregivers or other staff, then it was also seen to be justified. Sue (Int) said, *they will respond so much more if they have a visual.*

The use of videofluoroscopy to educate other staff was discussed by several clinicians in this study, but not always directly related to immediate patient care. Despite its acknowledged limitations, videofluoroscopy was inadvertently used as a tool for advocating, validating and justifying the service. As Cassie (Int) admitted, *I’ll do videofluoroscopy if nursing staff are... disputing... my decision making ... and the argument stops there a lot.* The use of a traditionally medical medium such as radiology also provided a platform for educating medical staff and improving their understanding of the *profile of speech pathologist*s in a medical sense for them (Sue: Int). Sue explained, *that’s why I have been pushing to try and get this hard drive ... so I can go around and educate the doctors: “This is what’s going on with this person’s swallow. This is why it’s really bad”.*

The use of videofluoroscopy to assist in communicating clinical reasoning (Ajjawi, Higgs & McAllister, 2008) perhaps highlights the significant limitation of the clinical bedside assessment and the manner in which others perceive what speech pathology does. All clinicians felt the need to justify use of videofluoroscopy, but the underlying reason for undertaking the examination was not always purely clinical. The need to use videofluoroscopy as a tool to rationalise and communicate decision making, especially to other professionals, perhaps highlighted the challenges some speech pathologists faced working within the acute medical model. These challenges are discussed further in Chapter 13.
11.4.1.3 Does Access to Videofluoroscopy Have an Impact on How Clinicians Manage Patients with Acute Dysphagia?

Clinicians were asked if they thought that having or not having on-site access to videofluoroscopy altered the manner in which they managed patients with dysphagia.

The clinicians without on-site access to videofluoroscopy (Service Types 1, 2, 3) reported that they felt it had an impact on the manner in which patients were managed overall. Not having videofluoroscopy readily available also changed the way in which it was used as part of the assessment process. Claire (Int) said:

*You may wait for another bedside assessment before you actually refer whereas when you’re at [a site with videofluoroscopy], you go up and assess and go “No, I’m not comfortable with that, I’ll [do an] MBS” .... But here it’s just “Oh, we’ll see” ... Just slows it [assessment] slightly.*

As suggested previously, not having videofluoroscopy on site meant that clinical bedside assessment had to be as thorough and accurate as possible. As Cassie (Int) said, *I’ve really got to know my stuff and be absolutely sure.* It could also mean relying on other medical signs, as Sam (FG2) reported: *We’ll trial them and if their temperature goes up we’ll stop. That’s the only way you can do it if you suspect someone is aspirating.*

Clinicians also reported being more cautious than they would be if videofluoroscopy was more readily accessible. This could mean that diet modifications were more conservative, and patients might remain on modified food and fluids for longer. Julie (Int) described how this was reflected in her management:

*There’s always the clients where you go “I just don’t know” and “Could they be silently aspirating?” .... And if I’m not sure, I think I’m a little more over-cautious at bedside because I know those things aren’t readily available to go “Oh, let’s just pop down to videofluoroscopy and check them out” ... Err on the side of caution in regards to my recommendations rather than going “Hey, I’ll just let them go and see how they go”. But yeah, I think that would be because I’ve seen what videofluoroscopy is like, and what a bedside is like, and it’s such a major difference.*

This caution and conservative management of dysphagia was also partially a reflection of the way in which clinicians in this study could service their clients overall. The clinicians based in Service Types 1, 2 and 3 were less likely to be able to review the
patient daily and there were often no other team members to call on, such as a physiotherapist or on-site medical team.

In contrast to those without videofluoroscopy on site, Kate spoke of the way in which videofluoroscopy aided her management. She reported that *we would do them on quite a few of the stroke patients.* It allowed her *a good image of what’s going on* and was *reassuring,* despite the limitations of the medium. This allowed her to *develop a management plan* and *actually try and treat the dysphagia, not just compensate by diet* when appropriate. It allowed her to test her hypotheses and facilitated her overall management of the patient.

Given that videofluoroscopy had the potential to change the manner in which patients were managed, clinicians were asked what they thought might change if they had videofluoroscopy on site and readily available. Jane and Celia (Int) thought that they were likely to do videofluoroscopies more readily if the facility was on site. Cassie (Int) also felt that this was likely to be the case. She felt that her confidence and ability to *argue my case* would be increased. She also thought that her workload would become much heavier, as she would be obliged to accept referrals through a clinic from both her own catchment and the surrounding ones. Cassie also felt that the service overall changed if videofluoroscopy was on site. She felt that speech pathology as a whole would be *more valued,* because *you can prove ... “Look, this is actually what I’m talking about”.*

Erin hoped that the development of a specific videofluoroscopy clinic within her service would change the manner in which patients with acute dysphagia could be managed. Rather than having to stay in hospital to await a videofluoroscopy, they could attend as outpatients if they were otherwise medically suitable for discharge. Thus the alternative set-up would improve current clinical practice and decrease bed days.

Interestingly, although it was recognised by all clinicians interviewed that the use of videofluoroscopy had the potential to change how they went about their clinical practice and delivery of acute dysphagia services, little direct reference was made to its use for the identification of silent aspiration. Rather, the benefits and rationales for undertaking the procedure were described in terms of more general outcomes. The positive impact of videofluoroscopy on the assessment and management of dysphagia was noted in the literature presented in Section 2.2.3.1. It has been suggested that recommendations based on videofluoroscopy differ from those made from clinical examination (e.g. Splaingard, Hutchins, Sulton & Chaudhuri, 1988). Access to on-site
videofluoroscopy facilities was reported in this study as not always being universal. Therefore, for many therapists, the decision to use videofluoroscopy was already made for them, despite patient presentation.

From a medico-legal perspective, Tanner (2007) has recommended that videofluoroscopy be conducted as part of routine assessment on any patient suspected of having dysphagia. He rationalised that “neglecting to conduct an instrumental evaluation of the swallow in cases of suspected dysphagia is analogous to refusing to X-ray a leg for suspected fractures” (Tanner, 2003, p. 86). It has also been suggested that an ethical issue could arise if a patient’s oral status is determined without a videofluoroscopy “to substantiate the physiology of dysphagia” (Sonies, 1996, p. 88). The potential consequences of mismanagement of dysphagia and the current acceptance of videofluoroscopy as the gold standard of assessment mean that clinicians need to seriously consider what it means to treat a patient without access to this tool.

This is the first study to the researcher’s knowledge that describes the impact of restrictions in access in relation to how the patient is managed overall in the non-metropolitan context. Access to videofluoroscopy was identified as variable and limited by many factors. This raised issues regarding patient care, and whether the patient who was unable to access this assessment was at a disadvantage in terms of dysphagia management.

11.5 COMMUNICATION OF RECOMMENDATIONS

The communication of recommendations was noted by clinicians in both Phases Two and Three to be a locus of potential breakdown in the overall assessment process. The process of communication of recommendations was complex and required negotiation with multiple parties. Communication was made through progress notes in the medical file, speaking with nursing staff and medical staff, ordering diets, and speaking with kitchen staff. Sometimes this process could be ambiguous and ad hoc. Sometimes it was explicitly defined.

At a minimum, speech pathologists needed to ensure that all notes were clearly documented. Most clinicians spoke about entries within the medical history being important. Clear documentation was seen as taking effort and time to complete. However, some had more developed systems than others. Julie (Int) appeared to have a
less developed system. This was perhaps reflective of her inexperience, having graduated only 6 months earlier. It was also perhaps a reflection of the amount of time she was able to spend developing systems for this small part of her caseload. Working within a Type 1 service, with fewer acute patients, she had less opportunity to develop, implement and modify systems within the larger hospital structure. It was a challenge to develop a system, as she was always rushed.

Claire (Int) spoke of putting significant effort into her notes and communication to compensate for the fact that she would not be there to guide implementation. This had been learned through experience. She described her role as consultant, and spoke of how this affected the way she communicated her findings and recommendations:

*Around here, you just go in and assess, provide your recommendation. ... You’re not following it through; you’re not making sure it blends in with everything else. You just don’t have that check up process or the interaction because you’re never there.... You’re just relying on them [nursing and medical staff] and hoping that they’ll follow what you’re saying. Or at least hoping they’ll read what you’ve said. My progress notes are never under a page. So you just hope somebody’s actually going to read this and it’s worth writing everything in but I end up being quite lengthy to try and write down everything.* (Claire: Int)

Thus because of the manner in which her Type 1 service was organised Claire compensated by being extra diligent with communicating her recommendations.

In Service Types 4 and 5 the need for adequate documentation was also acknowledged. The greater number of acute patients with dysphagia meant that investment in establishing a system was considered justified. Erin spoke about the emphasis her department placed on documentation of all communications in the medical notes, and not just documenting the assessment itself. By *making sure all of those systems are in place* (Erin: Int) to communicate and document recommendations of an assessment and document these communications, Erin and her department felt that miscommunication could be decreased and therefore patient safety improved. It was also hoped that in an adverse event, the clinicians in her department would be covered from a medico-legal perspective.

For Service Types 4 and 5 in particular, the communication of recommendations was also closely linked with education. Clinicians spoke of *getting across to them why you’re thinking that* (Sue: Int). They attempted to use the communication of recommendations as a teaching and learning opportunity.
The majority of verbal communication of recommendations was undertaken with nursing staff and kitchen staff. Verbal communication had the potential to be challenging, due to a range of factors, including the understanding and interest of parties involved, the challenges of limited time, and breakdowns in communication generally. Misunderstandings in who was responsible for communicating recommendations could mean that plans were not implemented appropriately. For Julie, whether direct communication took place with kitchen staff or not was dependent on how rushed I am (Julie: Int). This was in contrast to Claire (Int), who made a point of always letting the kitchen staff know and making sure that recommendations were communicated directly. Perhaps as a result, Claire commented less on issues of compliance with kitchen staff than Julie, and noted that the kitchen staff will try as best they can ... I’ve been involved with them and they are quite good.

Thus there were different ways in which clinicians conveyed their recommendations following an assessment. Some services had more defined systems than others. This could be seen as a result of the service type resourcing and the consequent amount of time clinicians could dedicate to developing and implementing such systems. It could also be seen as result of level of experience working within the acute setting. This could have implications for the consistency and documentation of recommendations.

McAllister, Hay and Street (2008) described adequate communication of recommendations as an essential component of duty of care. They stressed that as professionals, speech pathologists had an “ethical and legal obligation” (p.145) to ensure that it is undertaken to an appropriate standard. This was supported by the Speech Pathology Australia Code of Ethics (2000). Tanner (2006) wrote that medical records in particular were “the primary evidence of your professional conduct” (p. 17) and played a pivotal role in establishing a “timeline of events” in the case of legal proceedings. In dysphagia litigation, communication between health professionals has also been noted to be a significant legal issue (Tanner, 2007). A coroner’s case in South Australia (South Australian Coroners Court, Inquest Number 17/2005) examined the issue of breakdown in communication of recommendations that resulted in a patient with dysphagia following stroke receiving an inappropriate diet and subsequently choking. It called for clarity in the way recommendations were conveyed and documented, and for systems to be established that would prevent such incidents occurring again. In addition to speech pathology continuing adequate documentation in
the medical record, these coroner’s recommendations included ensuring that nursing staff read through progress notes and that a robust system of communication be established between the wards and kitchen staff. Without such systems in place, patients with dysphagia may be placed at unnecessary risk. Moreover, clinicians may be placing themselves in a position where they are unable to prove appropriate clinical practice in the case of an adverse event. Tanner (2007) stated that the notation of any communication is vital in a legal situation, and what other professionals do with the recommendations made is investigated as a separate issue. It is evident that communication of recommendations must be explicit and systematic, involving both written and verbal communication. Speech pathologists therefore need to ensure that the manner in which communication is undertaken is not ad hoc. This is particularly challenging when resources and time are limited. Although the data presented suggest variability in the manner of communication of recommendations, the imperatives of ethical conduct, quality of care, and perhaps even protection of oneself from medicolegal complications make communicating recommendations an important challenge.

11.6 MANAGEMENT, REVIEW AND DISCHARGE

Although not a focus of the current project, the issues of ongoing management and involvement in the discharge process was raised by many of the clinicians, and warrant brief comment here. The differences in approach to management were related to several factors which have been discussed throughout this chapter. The first was the setting, or service type; the second was the role of speech pathology within the context of that service; and the third was related to clinicians themselves: their interests, experience and ability to work within the system. Julie (Int) commented on the differences she perceived between her current service and a larger service at which she had undertaken a university placement:

*But I do regular reviews...until they get discharged, which nobody ever tells me about. In [my metropolitan placement] they used to have a big chart that you had to tick off every service that they had seen in the hospital ... and actually approve their discharge ... Here, that doesn’t happen; no-one tells me they’re going home. I only rock up to the hospital the next day and they’re like “Oh, they were discharged to [large regional hospital]” or “they’ve gone home”. No-one tells me ... sometimes I’ve been able to get a bit of education in before, I try to educate the family then and there, not wait till they’re being discharged because I know what it’s like up here, they’re gone before you know it. ... So discharge ... it is part of my role, I just don’t do a lot of discharge*
planning. And so I just see them and hopefully they make it up to a certain diet level, and fluid level, by the time they leave.

It was evident from clinicians’ comments that the discharge process was not always effective in ensuring continuity of patient care. Speech pathology was not always part of the discharge process, which meant that patients were often sent home without notice, making ongoing post-acute management difficult. In some of the smaller services, patients might be transferred to larger centres with little notice, with the speech pathologist losing track of where they had gone. However, the challenges with the discharge process were not always limited to Service Types 1, 2 and 3, with clinicians from all service types reporting this as an issue. As such, it was likely to be related to the context of how speech pathology worked within the acute medical setting in non-metropolitan areas. This is discussed further in Chapter 13.

11.7 SUMMARY

From both the interviews with clinicians in Phase Two and the focus groups in Phase Three, there was general acknowledgement of the importance of dysphagia assessment within the respective services. There was also acknowledgement of the evidence base and national clinical guidelines in managing patients with dysphagia following acute stroke. However, the context of the service and the sequent resources available resulted in reported differences in care, which had the potential to result in inequitable service provision for patients with dysphagia following acute stroke, based on their geographical location. It also had implications for how resources were distributed generally within some services.

Restrictions in access to videofluoroscopy and the subsequent impact of this decreased access on clinical management of dysphagia were of particular concern for clinicians from services without on-site equipment. It was acknowledged that these restrictions contributed to differences in how patients with dysphagia following stroke were managed across different service types. From equity, ethical and medico-legal perspectives, this situation could have implications both for patients with dysphagia following stroke and for clinicians treating them. No clinicians in this study mentioned alternative forms of service delivery such as telehealth. There is a small amount of literature in this area that suggests telehealth might benefit patients in rural areas who require videofluoroscopy (Perlman & Witthawaskul, 2002). Given the findings in the
current study, the use of telehealth in videofluoroscopy and dysphagia assessment warrants further investigation.

It was particularly interesting that when the informants of Phases Two and Three were asked about perceived breakdowns in the assessment process, the clinical assessment itself was not necessarily a point of concern. Even clinicians who had few opportunities to practise clinical skills in the area of dysphagia assessment did not necessarily focus on speech pathology-specific tasks as their point of concern in the overall process. This was despite literature in this area reporting inconsistencies in the clinical assessment. Nearly all the clinicians from Phases Two and Three identified the referral process and the implementation of recommendations as being of greater concern within their service. This suggests a need to work at a larger system level to promote adoption of the use of speech pathology in the care of patients following stroke. This task could be challenging within the service type resource limitations. This situation highlighted the challenges clinicians faced in assessing and managing patients with dysphagia within the non-metropolitan acute setting, and is discussed further in Chapter 13.
CHAPTER 12
WHAT HAPPENS WHEN THE SPEECH PATHOLOGIST IS NOT PRESENT?

The current reality for many non-metropolitan services was that at some times, speech pathology input was not on site when it was required. As demonstrated in Phase One of this study, guidelines for what should happen when a speech pathologist was not available had not always been developed. In this section, examples are presented of processes for dysphagia assessment in the absence of a speech pathologist. These processes were developed into flow chart format from information gathered from the clinicians interviewed in Phase Two. The context behind the choice of each process is presented, along with a discussion of each process. This is followed by a presentation of issues surrounding the use of screeners in the services interviewed and the comments from the Phase Three focus groups, including an additional process option that was raised by focus group members. A discussion of these results in relation to the national and international context is undertaken in terms of the implications for management of dysphagia following stroke.

12.1 PROCESSES OF ASSESSMENT IN THE ABSENCE OF A SPEECH PATHOLOGIST

From the clinicians interviewed, seven different processes with some common elements were identified, and an additional process was identified through the focus groups. Each process represented a way in which dysphagia management was addressed in the absence of a speech pathologist. These processes are presented in four subsections which allow the common elements to be discussed. It should be noted that although these processes are grouped for presentation, the groupings reflect the major elements only. For example, many of the processes reverted to ad hoc management if there was a breakdown. This meant that if the defined process was not followed, management of dysphagia became unclear. In each process flowchart, the management identified as ideal or expected by each clinician interviewed is presented in green. Events that might occur as a result of breakdown in the desired process are identified in red. A summary of the processes identified in this study is presented in Table 12.1.
Table 12.1
Summary of processes of assessment in the absence of a speech pathologist

<table>
<thead>
<tr>
<th>Process</th>
<th>Service Type</th>
<th>Location of Service</th>
<th>Main feature of process</th>
<th>Stroke pathway used in the service</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>Community health</td>
<td>Ad hoc (doctor or nurse makes the decision)</td>
<td>No</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>Community health</td>
<td>Nil by mouth until speech pathology assessment or doctor’s decision</td>
<td>No</td>
</tr>
<tr>
<td>3</td>
<td>5</td>
<td>Within hospital</td>
<td>Sip test or doctor’s decision</td>
<td>Yes</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>Community health</td>
<td>Phone contact or transfer to larger hospital</td>
<td>No</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
<td>Community health</td>
<td>Phone consult</td>
<td>No</td>
</tr>
<tr>
<td>6</td>
<td>N/A (identified in focus group sessions)</td>
<td>N/A</td>
<td>Weekend service</td>
<td>N/A</td>
</tr>
<tr>
<td>7</td>
<td>4</td>
<td>Within hospital</td>
<td>Nurse initiated screener</td>
<td>Yes</td>
</tr>
<tr>
<td>8</td>
<td>5</td>
<td>Within hospital</td>
<td>Medical initiated screener</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Note: All community health services were located in separate buildings but on the same campus as the main hospital

12.1.1 Variations on Nil by Mouth Until Speech Pathology Assessment and Ad Hoc Medical Assessment

The first group of strategies for management of dysphagia in the absence of a speech pathologist had the common feature of medical involvement in an ad hoc manner. Three processes shared this feature. Medical staff were assumed to have competency to enable them to undertake assessment, and there were varying expectations of what would happen at each site. Each process is briefly described and then the common considerations discussed.
**Process 1: Ad hoc (doctor or nurse decision)**

The speech pathologist in this particular case worked as a sole clinician across two sites and was based in community health, next door to the hospital. The history of the department meant that speech pathology input to the hospital was sporadic, from both an ongoing staffing perspective and in the day-to-day speech pathology schedule. It was noted by Julie (Int) that:

*Because the service provision’s not every day,… the gap between them having a stroke and me seeing them is just too massive. So the doctors and the nurses seem to take it upon themselves to modify diets and fluids, and then proceed to refer them to me.*

In this process (Figure 12.1), the specifics of what occurred in the absence of speech pathology were unclear, undocumented and ad hoc in nature. Julie commented, *If it’s urgent, I’m not sure what they would do.* It was assumed that the medical staff would make *that call*, or the nursing staff might be involved in modifying diets. There was an assumption that the medical staff would have a process in place and be utilising it. There was also resignation to the role of medical staff having the final say in patient care, and therefore a tendency to feel that this made it OK to leave the process and decision to them, and for the speech pathologist to *see them as soon as possible.*
Process 2: Nil By mouth (NBM) until speech pathology assessment or doctor’s decision

The clinicians who reported the use of this process (Figure 12.2) were based in a Type 3 service. Their department was located in the community health building near the hospital. Celia (Int) described the use and rationale of this system:

I wouldn’t be interested in developing a screening, a nurse screening tool for this organisation, mainly because, technically between 8:30 to 4:30 weekdays they have access to our service. So there’s only the weekend that they don’t and that is covered OK at the moment [by the doctors]. ...So, the procedure that I would encourage or that I would be expecting them to follow would be that they place them nil by mouth and wait for speech pathology review, but, if anything happened in the meantime where it was obvious that they were managing ... their secretions and everything well, then I would be encouraging the doctor to make some kind of informed decision about whether or not they do trial something.
Figure 12.2: Process 2: NBM until speech pathology assessment (doctor’s decision)

The clinicians interviewed reported that this NBM process was implemented not always, but I reckon 80% of the time at least (Jane: Int). The percentage of patients who did not get referred to speech pathology following an ad hoc assessment was not noted.

- **Process 3: Sip test and doctor’s decision**

This process (Figure 12.3) involved the use of a sip test undertaken by a medical practitioner. The sole clinician who described this process worked in an acute facility that had a stroke clinical pathway indicating what should occur in the absence of speech pathology. However, the clinician reported that this was not necessarily adhered to in
day to day practice: It’s not like I’ll have someone who’ll come in at 7 o’clock on a Friday night and then be nil by mouth waiting for the speechie. That never happens… because the doctors just put them on whatever (Sue: Int).

This process was much dependent on the medical staff admitting the patient undertaking the screener appropriately, despite not being directly trained. However, the culture of this organisation had not necessarily accepted the use of the broader stroke clinical pathway, let alone speech pathology specific recommendations. This resulted in an ad hoc administration of a screening assessment, or the medical staff member making an uninformed ad hoc decision regarding a patient’s oral intake status. In addition, whether a speech pathology referral was made depended on the medical personnel admitting the patient, rather than it being a standard part of the process.
Figure 12.3: Process 3: Sip test and doctor’s decision

Patient admitted, placed on stroke pathway, screener to be done within 24 hours.

Medical initiated dysphagia screen 30ml sip test

Speech pathologist not available

Medical staff modify diets ad hoc

Fails sip test (cough)

Passes sip test (nil cough)

Referral to speech pathology

Diet aides or nursing staff identify modifications

Oral intake commenced based on guidelines

Outcome

Remain NBM till SP

There may be no referral made

SP to assess as soon as possible (usually that day)
Discussion: Variations on ad hoc medical assessment

The NBM until speech pathology assessment was anecdotally a well known process in many services. The criteria necessary for this scenario to function were support of the guideline by medical and nursing staff and appropriate management of hydration requirements. However, it could pose difficulties in terms of medication administration, and if staff were not compliant, could result in ad hoc and perhaps unmonitored provision of oral intake.

Similarly, the use of a sip test by untrained medical staff as part of a clinical stroke pathway could also result in ad hoc provision of oral intake if not supported appropriately by the organisation as a whole. Both the administration of a sip test by untrained staff and the ad hoc scenario described in Process 1 assumed medical (and in some cases, nursing) competence in the area of dysphagia identification and initial management. This was despite many informants in all phases of the study reporting the lack of recognition by other health professionals of dysphagia and its consequences following acute stroke. The question must then be asked: Are speech pathologists expecting too much from other health professionals in this area?

The default system of ad hoc management as described in Process 1 (Figure 12.1) was often referred to by informants in Phase One of this study. It placed a significant emphasis on medical staff managing these patients when speech pathologists were unable to. At the same time, however, this was an assumption. The ad hoc nature implied that this was not a defined and organised approach to care, and as such, had not been discussed with other relevant team members. It effectively saw the speech pathology department within a service abdicate its responsibility for implementing a defined and evidence-based protocol which met best practice standards, and shifted this responsibility to another profession without ensuring their acceptance of such responsibility. By doing so, it potentially diminished the autonomy and value of speech pathologists within such settings, as they were no longer taking the leading role within this area. By managing this issue of absence of speech pathology services in such an ad hoc manner, it also placed each service at risk of appearing disposable. If other professionals could so easily undertake the assessment without training and prior thought to implementing the process, then why is a service justified at other times? The Speech Pathology Australia Response to the Productivity Commission Position Paper (2005b, p. 8) stated, “Apportion of responsibility for clinical outcomes and patient
safety to GPs is not appropriate – these responsibilities remain those of the allied health professional, as a primary healthcare provider.”

Consequently, speech pathologists have a professional responsibility to ensure that this responsibility shift does not occur. This practice potentially places the patient with acute stroke at risk of decreased quality of care due to poor processes being in place, and it also places the speech pathology profession at risk of ethical misconduct. As documented in Chapter 2, it is well recognised that speech pathology is the leading profession in this field. Speech pathologists therefore have a responsibility to ensure that processes are in place that meet best practice guidelines. However, for many clinicians, the context in which they worked posed many obstacles to undertaking this appropriately. Working within this context is explored further in Chapter 13.

12.1.2 Variations on Telephone Consultation

In the two processes involving telephone consultation, the speech pathologists carried a telephone with them to attend to new referrals as they arose. The first system had an additional element of transfer to a larger facility when the speech pathologist was not on site for a prolonged period. The second did not have that alternative.

- **Process 4: Telephone contact and transfer to larger hospital**

  The therapist in this service was a sole clinician based in a community health setting beside the hospital. She carried a mobile phone with her during business hours and undertook outreach services to several different sites. She was present at the base site for at least a short period each working day. The process at this service (Figure 12.4) was defined by its use of transfers to a larger base hospital if the speech pathologist was absent for a prolonged period of time. Claire (Int) noted that if the nurses believe a swallowing assessment needs to be done, they’re to organise it with [large regional hospital] and transfer the patient over … They’re quite practised at doing it that way.
During times that the speech pathologist was off site but not necessarily absent, the nursing staff were encouraged to phone her and discuss the referral. Weekends were more difficult, due to the fact that the speech pathologist was not contactable and there was no speech pathology service at the larger hospital either. The process then appeared to become less concrete. In this situation, there was an expectation that medical staff would assess the patient, but a formal system was not in place. The speech pathologist noted that a screener had previously been used by the former speech pathologist. She noted that on some occasions, although not necessarily written explicitly in the medical record, there was informal reference to use of sip tests.

On weekends and overnight the process became less clear, as there was no alternative plan clearly documented. However, the process was functional when the speech pathologist was on extended leave, as the nursing staff were practised in transferring the patient to a larger centre. This process of transfer was consistent with medical stroke guidelines, which suggested transfer to larger facilities following acute
stroke for some forms of medical assessment (National Stroke Foundation, 2002), although how frequently this occurred in reality was difficult to determine. Anecdotally, it might not be a consistent practice for all patients following stroke, at least not when speech pathology assessment of dysphagia was the service unavailable locally. This was an area that could benefit from further investigation and improvement in clarity of process.

- **Process 5: The phone consultation**

  In this process (Figure 12.5), the speech pathologist was a busy sole clinician managing a mixed caseload in a Type 2 service. Following significant nursing staff resistance to the implementation of a formal screening program, the therapist initiated a phone consultation system. This involved the therapist carrying a mobile phone, allowing her to be accessible 24 hours a day, 7 days a week. Upon receiving a phone call, the speech pathologist discussed the referral with the nurse, asking questions until the speech pathologist felt confident to make a decision. This preliminary recommendation was then written down and faxed through to the nurse unit manager (NUM) of the ward for inclusion in the file notes. The patient was assessed as soon as the therapist was available on site.
In the event that this process was not followed, the process undertaken reverted to an ad hoc system, as identified by the red boxes in Figure 12.6. The clinician noted that in this case, the modifications made to a patient’s diet were sometimes identified and reported to speech pathology by kitchen or administration staff. Otherwise they remained unreported and the outcome for the patient was unknown.
The clinician reported that before this system was implemented the nursing staff did not manage dysphagia in any organised manner. This was despite a history of the previous therapist having developed a screening tool for use in her absence. It was reported that some of the issues might have been related to the conflicting messages that the nursing staff were being given. The speech pathologist reported an incident from earlier that year which had caused confusion for all staff involved, where the executive director of Quality Services told the NUMs that they can change a diet whenever they choose (Cassie).

This made an already challenging environment more difficult to work within. The therapist reported struggling with this, and the phone system was one way of trying to make sure that dysphagia-inexperienced staff keep well enough alone until I get there. It was interesting to note that it was the nursing staff who were reportedly not interested in the implementation of a formal system for out of hours management. This was despite the frustration voiced by this group regarding allied health unavailability due to caseload and other outreach site commitments.

**Discussion: A form of telephone consultation**

As noted in Chapter 3, limited research has been undertaken into the use of telehealth in the assessment and management of patients with dysphagia. When questioned regarding the use of telehealth in the delivery of dysphagia services in Phase One of this study, no informants reported formal use of such a method. It was therefore surprising to have two clinicians comment on the use of this method, albeit in a limited mode. However, neither clinician relied solely on this form of service delivery, tending to use it as a method of screening and responding to referrals. Cassie also made some preliminary recommendations on occasion. Towards the end of Cassie’s interview, despite her use of such a system, she mentioned the limitations of this particular form of telehealth, and her preference for an alternative:

_We can’t do a dysphagia assessment over...teleconferencing ... which is a struggle for speech pathology. If I had no limited resources and no limited time constraints, I would have 2 hours a day free where I could just go to a site if I needed to._
This acknowledgement of the limitations of this process, combined with the ongoing pressure of being available all the time, highlighted the significant challenges of implementing a system such as the one Cassie described. It had the benefit of the speech pathologist being contactable, but there were some potential limiting factors. First of these was burnout of the clinician. The expectation of being available 24 hours a day, 7 days a week was substantial, even though such calls might be infrequent. Following from this was the issue of sustainability: if that clinician were to leave the position, the next clinician might not be as keen to maintain this system.

The use of telehealth in the clinical assessment of dysphagia remains untested, as does the exact format it might take. Whether a simple phone consultation is sufficient to provide information to make an appropriate assessment and recommendation is open to debate. A more sophisticated system is likely to be required if quality is to be maintained. There would also be medico-legal considerations. Further research into the use and efficacy of such a system would need to be conducted in order to answer these questions.

12.1.3 The Weekend Speech Pathology Service

Although raised in the focus group as an ideal solution, the notion of a speech pathology weekend service warrants presentation here. This was suggested for use within a larger service, such as a Type 4 or 5. Despite acknowledging the challenges surrounding potential recruitment and retention for such a position, Kelly (FG) voiced her rationale for such a service:

*Physiotherapists* have got quite a good weekend service now ... so I don’t see the difference. Looking at it in terms of time-frames, a third of your time is spent from the time on a Friday when you leave to the Sunday night and it’s a third of stroke patients. So really I think getting a speech pathologist to do it is better than getting anyone else to do it ... in an ideal world. That’s not always achievable.

Minimal evidence exists to support the benefits of weekend services for patients requiring speech pathology input. However, as emphasised in Chapter 2, the literature supports early assessment of dysphagia following stroke. None of the clinicians interviewed in Phases One, Two or Three had a weekend service in place at the time of
data collection. However, the researcher was aware of one non-metropolitan service in Victoria that was hoping to commence a weekend service within 12 months.

Over the past few years there has been increasing interest in this area in Australia, especially within the larger metropolitan hospitals. Ryan, O’Laughlin and Whitney (2005) implemented a weekend service at a large metropolitan hospital in Sydney and reported that the number of patients being kept nil by mouth decreased, the number of patients being fed inappropriate diets decreased and there was decreased use of unnecessary nasogastic feeding. Tomolo (2006) reported on a pilot program of weekend service at a large metropolitan hospital in Melbourne with similar results. Likewise, Archer and Vertigan (2008) reported changes in how patients were managed in terms of dietary management and commencement of enteral feeding over weekends. This led to anecdotal reports of improved patient, clinician and medical staff satisfaction with the service overall. These programs were all considered to result in improvement in overall quality of care for the patient with dysphagia.

In the non-metropolitan setting, implementation of such a system would require several considerations. First, it could only be implemented at larger, Service Type 5 hospitals, which had the clinical need and potential resources to justify such a system. There would need to be significant managerial and organisational support, including finance, and there would need to be the availability of clinicians to undertake such a position. The latter condition may be hard to fulfil, given the difficulties noted with recruitment and retention. However, given the precedent set by other allied health professions such as physiotherapy of providing weekend services, and the uptake and reporting of weekend services within the metropolitan areas of NSW and Victoria, it is perhaps not surprising that some clinicians in this study saw it as a possible alternative to the current processes for managing in the absence of a speech pathologist.

12.1.4 The Use of Screening Tools by Other Professionals

The use of screening tools by other professionals has gained much attention within the speech pathology profession in recent years. Two professional groups were mentioned by clinicians in this study as being the most likely to be trained in the use of a screening protocol: medical and nursing. Examples from two of the clinicians using these tools are presented. Due to the significant focus on screening tools in the literature, these are then discussed in the following section.
Process 7: Dysphagia screeners undertaken by medical staff

This strategy (Figure 12.6) involved a screener undertaken by the medical staff. As this facility was still in the early phases of development of the protocol, limited information was available. However, the clinician reported early positive reports from medical staff. A set protocol was to be developed and the medical staff were to be trained in dysphagia screening. Speech pathology would then assess any referred patients at the first available opportunity.

The use of medical staff to undertake a formally developed screener protocol made sense in that medical staff were already responsible overall for the care of the patient. For it to be successful though, medical staff and speech pathologists needed to work cohesively in terms of expectations and role definition. Resources also had to be available to undertake training sessions and monitor outcomes. Although in theory this sounded straightforward, in reality it was sometimes difficult to have all the professionals involved come to a mutual understanding of the process and how it would work. Erin noted one of the difficulties encountered in this process: *Our stroke teams visited [another regional hospital]. And they had ... a little bit of a regimen about what happens ... Whereas we can’t seem to reach that consensus with our doctors so it just depends on the doctors.*

The process clearly identified the professional responsible for the screening, in this case, the medical staff. When it was part of a stroke pathway, it was also only a small additional part of an overall assessment. The training requirements were anticipated to be less than training the nursing staff, as there were not as many individuals to be trained. Moreover, the speech pathologist still undertook formal assessment of each patient as soon as possible following screening, ensuring that no other problems (such as a communication impairment) remained unidentified.
Patient admitted, placed on stroke pathway, screener to be done within

Speech pathologist not available (weekend or after hours)

Medical staff undertake formal dysphagia screen

Medical staff modify diets ad hoc

Passes screener

Oral intake commenced, based on guidelines

Referral to speech pathology

SP to assess as soon as possible as per priority system

Fails screener

Remain NBM till SP

Figure 12.6 Process 7: Dysphagia screener undertaken by medical staff
Process 8: Dysphagia screeners undertaken by nursing staff

The final process involved the use of nursing staff to undertake screening of all stroke patients (Figure 12.7). The speech pathology department trained nursing staff to perform a sip test and make observations, then to formulate recommendations for an interim diet if appropriate. The screening protocol was developed on site, an adaptation of another hospital’s screening assessment. The clinician involved described the content of the screener it as very conservative. Reaction to and acceptance of the screening tool was described as largely positive. The clinician reported that the nursing staff found it a relief to be able to do something, especially over a weekend or when a speech pathology service might not be available for several days. It was reported, however, that the process was not always perfect. Kate (Int) reported:

If someone’s come in after 5 o’clock at night ... it would be ideal, if they were a stroke patient, for them to just wait until the next morning for us to do the assessment. That’s... what I put across in the training ... But often they will just immediately run and do the screening.

Despite the guidelines that regardless of screener outcome, all patients must be referred to speech pathology for a full assessment, sometimes this did not occur, as Kate reported, occasionally ... someone will say, “Oh, so-and-so had a dysphagia screen done on them” and you’ll go, “we didn’t get a referral”.

Like the process described for screening assessments by medical staff, this process put an emphasis on other staff, in this case nursing, to follow a set of guidelines appropriately. When this occurred, the system worked well: patients were screened, referrals were made and patients were followed up. When guidelines were not followed, there was a breakdown in the process and an increased risk of inappropriate or inadequate care.
Patient admitted, placed on stroke pathway, screener to be done within 24 hours.

Speech pathologist not available.

Nursing staff undertake formal dysphagia screen.

Fails screener.

Referral to speech pathology.

SP to assess as soon as possible (next working day at latest).

Remain NBM till SP.

Passes screener.

Oral intake commenced based on guidelines.

There may be no referral made.

Outcome unknown.

Figure 12.7 Process 8: Dysphagia screener undertaken by nursing staff
12.2 CONSIDERATIONS IN ESTABLISHING GUIDELINES FOR ASSESSMENT IN THE ABSENCE OF A SPEECH PATHOLOGIST

Within the profession there has been a growing awareness that processes need to be established for when speech pathology services are unavailable. With this awareness, however, has come some confusion. With no consensus on what was an appropriate model of care in this area, many clinicians were left wondering what they should do: I just don’t know which one I want to do or which one I think works best. I just don’t know (Sam, FG2).

Clinicians in Australia, and indeed, in countries such as America, Canada and the United Kingdom, were all aware of the use of screening tools for dysphagia identification. Erin observed that: There has sort of been pressure ... Obviously dysphagia screening is a bit of a buzz word ... Australia-wide (Erin: Int).

Informants all gave reasons why they were or were not currently utilising particular processes for management in the absence of a speech pathologist. Of the clinicians interviewed for Phase Two of the study, it can be seen that only one (Service Type 4) utilised a formal nurse-trained screening program. It was interesting to note that the clinician within this service, although satisfied with the overall system in place, still identified difficulties with the model, in the form of compliance, training needs and maintenance. When discussing management of dysphagia in the absence of a speech pathologist, the clinicians interviewed raised several issues surrounding the development of a formal nurse dysphagia screening protocol within their settings. Many of these were reiterated by clinicians in the Phase Three focus groups.

The first of these issues related to resources. The financial costs of developing a protocol that was appropriate for the setting and support for training of the staff to be involved were often prohibitive. This was money that even larger organisations were not always able to access, despite the organisation’s commitment to meeting stroke guidelines. There were often hidden costs. In many smaller services, as time might not be formally allocated to adult service provision, other client groups might have their services reduced to undertake this work. The reality of context often resulted in the department having to determine what clinicians could and could not do with their current resource levels. Erin (Int) described this process for her service: OK we can’t do this with what we’ve got but we don’t want to completely rule it out. What are the other
options to allow us to meet our standard requirement of a dysphagia assessment within 24 hours?

No clinician would deny the resources required to set up and maintain a quality screening protocol. And some would argue that systems should not be established if they cannot be maintained at a high standard over the long term. The ongoing resources required were magnified when nursing staff instability was taken into consideration. In all the services interviewed, this was a major issue. Considering the limited time available for training, concerns were raised regarding maintenance of adequately trained staff to undertake any screening procedures. Melissa (FG1) remarked, *nurses leave and we constantly try to train enough people to keep the program running.*

In contrast to the positive manner in which some clinicians described the nursing staff becoming involved in the implementation of a screening program, many of the clinicians interviewed expressed concerns regarding the staff interest and commitment to training in this area. Informants’ hypothesised reasons for this included the nurses feeling that the current system was adequate, because of limited time for training due to workload pressures, and in some cases, because of limited interest in the area of dysphagia and lack of knowledge of its importance. For example, informants said:

*So although they were keen they just felt ... that was just something they wouldn’t be able to do within the time-frames that they have.*  
(Erin: Int)

*They are very autonomous, very independent nurses and so they do see themselves as being jack of all trades and able to do a lot of this sort of stuff.*  
(Angela, FG1)

Regardless of the reason, this reluctance to undertake training raised questions in terms of who could be appropriate and willing professionals to undertake screening protocols in the absence of speech pathology, if the profession chose to go down this path. An equally important question was who then would comply with the protocols and ensure that the screening was undertaken in the manner intended. One of the most discussed points concerned the effectiveness, appropriate implementation and conduct of the tool. There were concerns that nursing dysphagia screeners might not be conducted in the manner intended. One clinician’s service had decided to discontinue the screening program due to ongoing issues with implementation. Within Lucy’s (FG1) service, it was considered that *patients had been put at unnecessary risk.* Lucy reported:
We have had incidents where non-trained nurses have taken it upon themselves to do the trial and after that no follow on has occurred and so it’s just not been managed very responsibly and there’s a lot of grey area. So we are taking that out of the equation.

Concerns about the reliability and effectiveness of screening tools were also raised. Several sites discussed the poaching (Kate: Int) of screening tools from other hospitals, which had implications for reliability. There were considerations about what to include in a screening tool, and the outcomes that should occur as a result of passing or failing. Potential risk to the patient was highlighted as a concern. Sam (FG2) said that to compensate for this she tried to write mine so it’s pretty foolproof so [the patients] get knocked out and sent to NBM pretty easily. But I don’t know if I should be doing that or shouldn’t be doing that.

Some clinicians suggested taking the screening debate out of the equation by considering other alternatives as discussed in this section, such as transfer to a larger facility and weekend speech pathology cover. It seemed that to have a protocol was one thing, but to have it successfully implemented was another. Given the issues encountered in implementing a formal nurse screening protocol, it was not surprising that some services felt that their current system was adequate, and that alternatives were beyond their resourcing. Reluctance to introduce screening programs was perhaps understandable, considering the potential legal ramifications of training another professional to undertake parts of one’s job. As Kara (FG2) pointed out, The thing that really worries me is the legal liability. What if I train somebody? What happens if they think “Oh well, I’ll feed them meringue” and they choke on a piece of meringue and I’ve trained them?

Another aspect was that the evidence base for implementing screening programs was still emerging. Although there was a program within her facility, Melissa (FG1) said, My concerns are more about the literature to support screening ... Each time we review it, I’m reminded, “Gosh, what do we base this stuff on?” The parameters that we use are very generic.

A final and very important question to consider that underpins much of the debate surrounding the use of screening programs is: Are speech pathologists the only professionals who could be undertaking dysphagia assessment? Just before the focus
groups began, a proposal had been made by an Australian university to commence a dysphagia course that was open to other health professionals interested in the area. This sparked much debate during the focus groups about whether that was a positive or negative development for the profession. Some clinicians felt that there was merit in this approach, in that speech pathologists cannot be everywhere and an alternative needed to be considered. Sam (FG2) and Angela (FG1) gave their views on this issue:

*If someone receives appropriate training and we’re not there all the time ... it’s OK for them to do it. I think speech pathologists in metropolitan settings have focused a lot on dysphagia ... because there’s no funding, nobody’s interested in language therapy ... But I think in rural settings we’ve got so many other things we need to do that ... we’re not going to lose our position if we don’t do the dysphagia stuff. It’s a thought.* (Sam)

*I think in some ways it would really help because if it was formally acknowledged that in order to assess dysphagia you need to have ... qualifications ... then it would make it much harder ... for doctors and nurses to override speech pathologists. Because it would be acknowledged that if they want to be overriding those decisions, then they would have to go and get that training. So I guess it takes some of our role away but it also retains or gives a certain amount of power to the people that are working in dysphagia.* (Angela)

Others in the focus group noted the potential risks of such a plan in terms of maintaining professional competencies, maintaining professional boundaries, and maintaining speech pathology as a viable profession within the acute care setting.

*I don’t think our dysphagia assessment is just about dysphagia ... [it also involves] a communication assessment ... I get a lot more out of standard bedside assessment than just what diet [to] put a patient on ... so I think you’re missing an aspect to the assessment if you’re not doing all those other parts as well ... If you start allowing people to do [parts of the speech pathology role] in particular areas where there’s only a speech pathology service once a week or fortnight, where is the line in the sand? Does that then transfer to places where you’ve got a service 3 days a week? ...It’s really hard once you start these things ... to work out an appropriate line in the sand and get people to stick to it.* (Kelly, FG2)

This section has demonstrated that there are many factors to consider when determining a process for management of dysphagia in the absence of a speech pathologist. Determining how it is to be done, who is to be involved and how it will be undertaken all need to be considered in the context of professional and legal ramifications prior to making an informed decision. For many services it was unclear whether this process of deliberation took place, or whether the pressure to make a decision was sometimes so great that it inhibited informed decision making.
12.3 DISCUSSION

As discussed in Chapter 2, the National Stroke Foundation (2002) has identified dysphagia as a core performance indicator, stating that “documentation of swallowing ability within 24 hours of arrival to hospital” was expected best practice. It also stated that “ideally a systematically applied, standardised assessment tool and clinical protocol should assist in early and appropriate interdisciplinary care”. The results presented here suggested that within some hospitals, this indicator was not being achieved on a consistent basis due to absence of defined clinical protocols.

As professionals, speech pathologists are keenly aware that part of their job is to decrease adverse outcomes for patients following stroke. Although speech pathologists might hope that patients are being managed in a manner consistent with best practice, this may not always be the case. Hinchey et al. (2005), in a study of 15 acute care facilities, investigated the differences both in practice and outcomes for hospitals with a formal screening protocol in place versus those without. They found that in the six sites that had a formal system in place (i.e. all patients were to be screened), adherence rates for screening were 78%, compared with 57% at the sites with no formal protocol in place. Differences were also found in pneumonia rates, with “formal” sites having a rate of 2.4% versus 5.4% in “informal” sites, which was statistically significantly different. Although that research did not define what constituted “an adequate dysphagia screen” (p. 1972), it highlighted the importance of having a defined and formal system in place. Hoping for the best was not enough.

As reported in Chapter 2, limited evidence exists regarding the form screening should take. Systematic reviews have not identified what constitutes an adequate screener and the form it should take (Martino et al., 2000; Perry & Love, 2001). All screeners have weaknesses, and this means that they must be utilised with caution. There are also many challenges associated with their implementation.

In discussed the screening assessment of dysphagia following stroke. They identified four models of dysphagia screening: a nurse performing the screening, a doctor performing the screening, all patients being referred post-screening to speech pathology and all patients remaining NBM until speech pathology assessment. These methods were similar to those reported here. The authors reported similar challenges to those raised by clinicians in this study, including provision of adequate training to
nursing staff, turnover of nursing staff, and the timely availability of speech pathology staff to undertake full assessment. Swigert, Steele and Riquelme also reported perceived resistance among medical staff to maintaining NBM status until speech pathology assessment. This was consistent with reports from the clinicians in this current study. Regardless of the method chosen, there were positives and negatives identified.

In the US, there has been discussion regarding the cross-training of staff to perform speech pathology assessments, especially following the issue of the Joint Commission Guideline (2006) to ensure screening of all patients following stroke prior to oral intake or medication administration. In a statement issued by the swallowing interest group ASHA Division 13 (Swigert, Riquelme & Steele, 2006), distinction was made between training other professionals to undertake screening procedures and training them to undertake a clinical evaluation. Swigert, Riquelme and Steele stressed that there is a difference between the two and that screening allows identification of a patient at risk for dysphagia and then referral to the speech pathologist for evaluation and management. ASHA (2004) does not support the training of other professionals to undertake a speech pathologist’s role or duties independently, despite the challenges faced by many clinicians in the delivery of dysphagia services and the pressure that they may experience from management to do so.

Similarly, Speech Pathology Australia (2007b) agreed that a speech pathologist’s skills were non-transferable to other professionals. They also stressed the importance of ensuring safe and effective service delivery when other staff were involved in delegated tasks such as screening. This entailed an organisation-wide approach to clinical governance that specified the development of tools such as protocols defining the scope of practice, position descriptions outlining tasks, processes to ensure that minimum training requirements are met and adequate supervision is provided, formal processes for establishing competency, and risk management plans. Many of these tools relating to dysphagia practice did not appear to be consistently available to the services in this study, and patients with acute stroke could thus be at increased clinical risk.

The Speech Pathology Australia document also stated that “speech pathologists intending to delegate tasks to another professional are responsible for judging whether that individual is competent with regard to that specific activity” (p. 6). Many clinicians in this study were unaware of the competency levels of some staff who might be undertaking dysphagia screening, and systems to establish and maintain such
competencies were not always present. This situation potentially places the clinician at risk of medico-legal action if an adverse event were to arise. With the limited resources available to clinicians in this study, questions of sustainability may then arise. As McAllister (1995) stated, “Delegation … requires faith in the process and faith in the persons delegated to do the job” (p. 142). Many clinicians in this study appeared not to possess this confidence with regard to the delegation of dysphagia screening.

However, a report on the implementation of a dysphagia management program for acute stroke survivors undertaken in a non-metropolitan area of Canada (Brown, 2007) stressed that flexibility was required to meet the needs of rural hospitals without speech pathologists. To manage this, an interprofessional approach was proposed as desirable to facilitate care of the patient with dysphagia in these settings. The program involved leadership from a project officer speech pathologist in the training of nursing staff to undertake screening assessments following stroke, using a structured, validated screening tool (Brown, 2007). However, despite the evident need to find a way to manage in smaller hospitals with less frequent speech pathology input, the report noted that resources had to be adequately allocated to this purpose both initially and for ongoing maintenance. Within Canada, such projects appear to have been supported both at a wider system level and across regions (e.g. Heart and Stroke Foundation, 2006; Heart and Stroke Foundation of Ontario, 2005; Martino, Knutson & Mascitelli, 2003). The data in the current study indicate that this was mostly not the case within non-metropolitan NSW and Victoria. Such a program might therefore be beyond the resource capacities for the speech pathologists of this study, who would require additional funding to undertake it in an appropriate manner. This is worthy of consideration and advocacy if outcomes are to be improved for non-metropolitan patients following stroke.

While this was being written, some areas of non-metropolitan NSW, as part of the statewide stroke strategy, were also involved in the introduction of a screening tool known as Acute Screening of Swallow in Stroke/TIA (ASSIST - Managers of Greater Metropolitan Speech Pathology Services in NSW Health, 2004) to facilitate out of hours management of dysphagia (Hunter New England Health Area Swallowing Screening Executive Committee, 2008; Little, personal communication, 2008). To the researcher’s knowledge, validation of this tool and outcome data have not yet been

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19 Outcome data for the implementation of this tool and project were not available at the time of writing.
published. The researcher was also unable to determine how many services had adopted this tool.

Besides discussing the challenges faced in developing and maintaining a screening program, some clinicians also voiced concerns about professional role delineation and definition. Although the use of nursing staff in screening for dysphagia might appear advantageous, Kaatzke-McDonald (1996) warned that it should be undertaken with caution. She suggested that not only is it a time consuming venture to ensure that training is current, but that the speech pathologist’s role in the acute care setting is based on dysphagia assessment and management. This role is one that the medical profession can understand, as it has a positive role in reducing length of stay. This is unlike the management of speech and language problems, which few other professional groups can grasp. Kaatzke-McDonald suggested that speech pathologists may do themselves a disservice if they reduced or relinquished their role in dysphagia, as their importance to the acute team may be diminished. These views were similar to those expressed by some clinicians in this study. However, Threats (in Body & McAllister, in press) argued that unless speech pathology as a profession can show evidence that lesser trained staff cannot perform a task to an adequate standard, we need to consider this option from an ethical point of view so that we can improve access for a broader range of clients. As a profession, speech pathology needs to closely examine the risks of screening for dysphagia by other professionals versus the benefits to patients following stroke, before making a decision on how to manage this matter. Limited data have been collected that directly compare outcomes on this basis.

When presented with the findings from Phase One regarding the presence of defined protocols for assessment in the absence of a speech pathologist, respondents in the focus groups were not surprised that many services had no guidelines in place. All clinicians interviewed in both Phase Two and Phase Three agreed that having a defined protocol in place was important in terms of their clinical practice. Establishing and maintaining a protocol, however, was identified as difficult for all services. Barriers to establishing protocols included resourcing and support for such systems within the acute medical setting. Clinicians voiced concerns regarding the maintenance of such systems within their current resource levels, and the possible effects on patient quality of care and outcomes. In light of these findings, speech pathology as a profession needs to consider what constitutes best practice in this area, consider the contextual limitations presented here and advocate for resources to meet standards for the care of the patient.
with dysphagia following acute stroke. The findings from this research show clearly that there is a large gap in non-metropolitan service provision for adults following stroke: to ignore this gap is unethical and irresponsible.

12.4 SUMMARY OF THE RESULTS PRESENTED IN PART FOUR

Part Four has presented the results arising from Phases Two and Three of research related to the direct provision of dysphagia services in non-metropolitan areas. Some issues underlying the provision of dysphagia services were presented to provide a context for the interpretation of data about dysphagia assessment. Clinicians highlighted departmental history, including recruitment and retention as well as the previous staff members, as affecting the manner in which services were currently provided. The frequently sporadic nature of admissions in the acute medical setting was also emphasised as important to consider in the way assessment was undertaken.

Through presenting the dysphagia assessment process step by step, a detailed examination has been undertaken of how dysphagia assessment following stroke in non-metropolitan NSW and Victoria was undertaken by the clinicians interviewed. Clinicians identified challenges in providing these services. These challenges related more to overall service provision than to the dysphagia assessment process itself. This was discussed in relation to resources. Restrictions were identified in access to instrumental assessment, which was reported to affect the way in which clinicians managed patients with dysphagia following stroke. These differences in access and service provision were noted to have potential equity, ethical and medico-legal implications.

Dysphagia assessment in the absence of a speech pathologist was also investigated. Results were presented in the form of a series of processes as described by the clinicians. Interestingly, all eight clinicians interviewed reported a different process within their service, suggesting that this is an area in which little consensus has been reached. Issues surrounding these processes and the use of screening programs were discussed. Clinicians highlighted a range of reasons related to the use or non-use of such systems. Many of these related to resourcing and professional boundary issues. These issues posed real concern for all the clinicians interviewed, and provided a perspective to consider in relation to future planning in this area.
PART FIVE
THEMES UNDERLYING THE PROVISION OF DYSPHAGIA ASSESSMENT SERVICES

Two major themes arose from the data describing the assessment of dysphagia in non-metropolitan New South Wales and Victoria. Both these themes broadly related to how clinicians provided services to patients with dysphagia following acute stroke.

The first theme highlighted the importance of considering how the provision of dysphagia assessment following stroke was integrated into the context of the acute medical service within non-metropolitan areas. During the first phase of this research (telephone surveys), it became apparent that context played a significant role in how clinicians were able to provide dysphagia assessment services. This context became more explicit in the interviews undertaken in Phase Two, where clinicians spoke at length about the environments in which they worked and how these in turn impacted on what they could or could not do for their patients. The notion that providing dysphagia services within non-metropolitan environments is about more than just the dysphagia assessment arose from the clinicians’ interpretations of the perceived barriers, not only to the provision of assessment itself, but perhaps more importantly to successful integration of recommendations into the overall care provided to patients following acute stroke. The manner in which this integration occurred had implications not only for the professionals involved but also for outcomes and the quality of care provided to the patient with dysphagia. This theme is discussed in Chapter 13.

Following this discussion of the importance of context, the second major theme presented relates to the concept of equity. To provide an acute dysphagia service within the non-metropolitan context, something had to “miss out”. This missing out was evident in the full range of service types. Who or what missed out could be related to the service type classifications and the defining characteristics as identified in Phase One. The relationship between the provision of a dysphagia assessment service and something missing out is discussed within the context of the equity objective in Chapter 14.
CHAPTER 13
“YOU’VE GOT TO MAKE AN IMPACT”: INFLUENCING THE CULTURE OF ACUTE STROKE MANAGEMENT IN NON-METROPOLITAN AREAS

As discussed throughout the Phase One results presented in Part Three, context was important in understanding the manner in which decisions were made and actions were undertaken. For the clinicians interviewed, the assessment process itself was only part of the picture. Sue: Int) commented:

I really love ... the challenge of making an impact on that system. And I do feel there needs to be at higher level, more of a multi-disciplinary approach, to get these [medical] interns and residents realising that they need to case manage... But also part of that is allied health not playing the victim role maybe as much. “Oh, they won’t listen to this, they won’t do this, they won’t do that, we’re never listened to”. Well, sometimes you’ve just got to get up and make yourself heard!

Making an impact on this system could have wide-reaching implications for the clinicians working in these settings and the patients they cared for. Clinicians throughout this study spoke of their work within the medical context, how they undertook the work, and how the context affected what they could provide. Specifically, compliance with recommendations following the assessment of a patient with acute dysphagia as a result of stroke was highlighted by many of the clinicians in this study as a point of breakdown in the care of the patient with dysphagia.

Compliance can be defined as the application and integration of the speech pathologist’s recommendations into a patient’s care plan consistent with the manner in which they were intended. Recommendations made by the speech pathologist outline the plan for the consistency of food and fluid that the patient should be given, safe swallowing strategies, and any other points that the clinician has determined appropriate from the dysphagia assessment (Logemann, 1998). In the acute setting following a stroke, the over-arching rationale for making patient-specific recommendations is to maximise patient safety and minimise the risk of adverse outcomes (Colodny, 2001a; Low, Wyles, Wilkinson, & Sainsbury, 2001), thereby improving the quality of care.

20 The term compliance has been chosen here, due to its higher frequency of use in the dysphagia literature reviewed. However, it is acknowledged that compliance may have negative connotations, and that adherence is frequently used in the broader health literature.
All the clinicians in this study spoke about compliance at the micro level, such as occasions when a nurse did not follow a recommendation or kitchen staff did not prepare the correct diet. However, data analysis revealed that this breakdown in compliance was far more complex than merely someone being non-compliant with one recommendation. It was the end result or visible outcome of challenges faced in providing speech pathology services within the acute medical environment. It is therefore proposed that compliance needs to also be considered at a macro level, in the context of the service as a whole.

As described in Chapter 2, it is well acknowledged in the literature that a team approach to management of stroke and dysphagia is essential to improving patient outcomes. However, very little literature addresses the impact of team functioning on compliance. Furthermore, to the researcher’s knowledge, no literature exists specifically on compliance with dysphagia recommendations in the acute medical setting. The limited dysphagia literature in this area focuses on nursing, carer and patient compliance in the nursing home and disability sectors, and highlights education as a key determinant in improving levels of compliance. Although education is acknowledged as an important factor, it is argued that focusing on education alone might not reflect all the underlying issues which may contribute to non-compliance.

Rather than presenting this section in terms of discrete events of compliance versus non-compliance, it was considered more useful to discuss the integration of the dysphagia assessment and subsequent recommendations into a patient’s overall care plan following an acute stroke. To consider how clinicians “make an impact” in order to promote compliance and positive outcomes for their patients, a discussion of the importance of being part of a team is presented. This encompasses reference to the clinicians’ comments surrounding having a presence, developing rapport, facilitating education about dysphagia and speech pathology, and establishing credibility. The impact of these factors on being part of the acute team is discussed. Outcomes related to successful integration of speech pathology recommendations into patient care following acute stroke are then discussed. It is acknowledged that these areas overlap significantly, and that the process of team building is not linear, nor is it restricted to these components alone. However, these were the components identified by the informants in this study.
As can be seen in Figure 13.1, the interaction between these components is complex, and in reality is a dynamic and ongoing process. All these areas are discussed in the context of caseload and resourcing issues as identified by the service type classification system outlined in Phase One. For simplicity of presentation, each component is discussed in turn here, and the implications for the patient are presented at the end of this section.

13.1 “YOU’VE REALLY GOT TO PROVE YOUR WORTH”: BEING RECOGNISED AS A TEAM MEMBER

When discussing their work within the acute ward setting and the relationship with other professionals, the clinicians interviewed spoke about the challenges of proving themselves and the profession. All but one informant, who was from the largest service sampled, reported this as an issue underlying how they went about their daily clinical practice. It is a complicated area, and one that will require more research to determine reasons for these challenges.

Several clinicians spoke of the need within their service to prove the credibility of speech pathology as a profession. As speech pathology services were a fairly recent introduction to the acute team, there were still many other professionals who did not
perceive speech pathology as credible in terms of a role in dysphagia and the acute medical team. This could be for a number of reasons. Awareness and education of the speech pathology role on the acute wards, and the potential consequences of dysphagia, were not always well understood. A sense of *always having done it this way* (Cassie: Int) by other professionals, and a reluctance to adopt new ideas and new ways of thinking, such as the rise of the allied health team in general, was another potential reason. This shift in practice has also been discussed in the literature (e.g. Williams, 1992). This inability to accept that another professional is potentially more skilled and expert in an area may be related to historical practice and an inability to see that each profession can contribute more within the group than an individual alone (Sherwood et al., 2002). The issue of general practitioner resistance to relinquishing stroke patients to a team with more expertise has been noted in the stroke literature as a potential problem in improving access to care (Cadilhac, Moodie, Lalor, Bilney & Donnan, 2006). Several clinicians in this study also spoke of a tendency to confuse the roles of various allied health professionals.

Some of the clinicians interviewed were based in services that had a sporadic or very recent introduction of speech pathology input. Within these services, the speech pathologists felt they had to prove why speech pathology as a service was valuable, and how they as individual clinicians could be a valuable part of the acute team. This was particularly challenging when other professions believed that they had previously coped adequately without this service. In these services, clinicians were often reliant on nursing and medical staff to request speech pathology input when they deemed it appropriate. In this way, they acted as gatekeepers: If they did not see the service as valuable, it would not be requested.

*I do have to rely on them, which I think is hard ... I probably feel a bit undervalued because...[its] their call ... when they want me, not when I can provide my skills and knowledge and expertise as a speech pathologist.* (Julie: Int)

It was acknowledged by most of the clinicians that *ultimately the doctor’s got the last say* (Julie: Int) in the patient’s treatment. This notion of “last say” has also been supported in the literature (e.g. Leipzig et al., 2002). Given that medical dominance that still pervades the non-metropolitan health context (Humphreys & Rolley, 1991), and is a longstanding issue for many allied health professions (Abramson & Mizrahi, 1996; Hodgson & Berry, 1993), this was a significant challenge. The historical aspect of the
nurse and doctor relationship within the medical model (Blue & Fitzgerald, 2002; Krackow & Blass, 1995) also often posed a challenge for where allied health, and especially speech pathology, would fit within this paradigm (Hodgson & Berry, 1993; Sherwood et al., 2002). This was also reported in the current study. For example, Julie (Int) recalled an incident where the nurse went behind my back and was telling the doctor that a patient did not require a modified diet because she only sees him at 12 o’clock once a day, I see him all day. This failure to accept the speech pathologist as a relevant professional and to reject her recommendations her role redundant in this situation. From a legal perspective, although a doctor may be responsible for the medical management of a patient, this does not negate the obligation for speech pathologists to provide acceptable levels of care to patients (Tanner, 2007).

Some clinicians spoke of the challenges speech pathology faces in proving its credibility as a profession when the evidence base for what we do on the acute wards is still in development stage.

There is so little Level 1 and 2 and 3 evidence. We have nothing to back ourselves up with. And if you have a [doctor who] says “Show me, what’s published in the Lancet about swallowing”: Nothing. ... And I know speech paths do brilliant work, but ... we need to be able to translate that value into their working knowledge. Now, they’ve got an acute mentality. “Now I take blood tests, I get numerical values that show their liver function” ... it’s a lot simpler in some aspects for them ... Yes, if only we could take a blood test to show that they have a swallow problem. (Sue: Int)

All these challenges led to an even greater perceived need to prove clinical competence and earn respect at a personal level. Many of the clinicians interviewed also said this was even more difficult as a result of the profession consisting largely of young females. As Cassie (Int) observed: The fact that I’m young and I’m female is a reality. I’m less respected. Although society at large might argue that this should no longer be an issue, the health care literature demonstrates that in some ways the gender divide still poses very real obstacles in the medical setting (Abramson & Mizrahi, 1996; Farrell, Schmitt & Heinemann, 2001). This is perhaps reinforced by data which show that allied health in non-metropolitan parts of Australia tend to be younger than nursing and medical staff in these areas (NRHA, 2004).

Proving credibility and value takes time, as this part of the team process does not occur quickly (Farrell et al., 2001; McCallin, 1999; Sherwood et al., 2002). Many clinicians did not necessarily have that time, either on a day-to-day basis due to service resources, or on a longer term basis due to recruitment and retention difficulties.
Proving yourself professionally and personally became especially difficult if the clinician previously in the role had not proved him- or herself. If the previous clinician had not been well respected, it often meant that speech pathology as a profession then had decreased credibility. This resulted in the incoming clinician having to earn credibility and respect not only as an individual, as would be the case for any new team member, but also for the profession. Sue found this particularly challenging: *I think the big thing, for me, is the lack of recognition of our profession.... Which leads to a lot of disregard; lack of credibility, which makes our daily work a lot more difficult.*

The informants talked about proving their individual competency as related to gaining credibility as an individual, a professional and as part of the team. Figure 13.2 shows this relationship between credibility, respect and being valued. It is hypothesised that these aspects are closely interrelated. If one is not achieved, the others will suffer. For example, if there is limited credibility for speech pathology as a profession within the service, it will be difficult for the clinician as an individual to gain respect as a clinician. In turn, this makes it even more challenging for both the individual clinician and the profession to be accepted as part of the acute medical team. This then feeds back into the credibility of the profession, and so the cycle continues.

*Figure 13.2 The interaction between respect, value and credibility*

For speech pathologists to feel part of the team and be able to optimise outcomes for acute patients, they needed to have an impact on the larger system. They needed to be accepted both professionally and personally if the recommendations arising from their assessment were to be appropriately implemented. This is consistent with the literature on teamwork, which notes that in order to be accepted as part of the team
newcomers must prove themselves competent (McCallin, 1999) and trustworthy (Creed & Miles, 1996). In a study of team functioning in four health care teams, McCallin (1999) identified competence at the individual level as integral to how the team was able to perform. In observations of team members, she noted that when new people entered a team, existing team members tested them to see what they were capable of contributing. As a result, newcomers had to be proactive in proving themselves competent in order to be accepted. It is only after clinical competence was proven that the team could begin to look at the newcomers’ values, and how they might be able to work within the current setting. This process takes time, trust and good communication (McCallin, 1999).

The literature relating to team development indicated that proving themselves competent and earning respect were important steps to a team accepting newcomers. For speech pathologists, the comments from clinicians in this study suggested that this must occur on two levels: that of the profession and that of the individual. This is a significant challenge, which ultimately has the potential to affect the manner in which speech pathology input is utilised.

13.2 “OUT OF SIGHT, OUT OF MIND”: THE IMPORTANCE OF BEING PRESENT

Oh, they [other staff] were aware, but the unseen is forgotten. (Jane: Int)

All informants mentioned presence when talking about the manner in which they worked within the acute setting. Being present physically on the wards and within the hospital environment was seen to be closely related to how clinicians went about their acute work. The barriers and facilitators to establishing presence are summarised in Table 13.1.

The ability to be present could be related back to the service and associated resourcing constraints, as described in Phase One. A history of fluctuating speech pathology services, through either recruitment and retention difficulties or funding restrictions, could affect how much presence a speech pathology department had in an acute setting. This was particularly the case for sole clinician departments, where the loss of a clinician meant the loss of the entire service for a period of time. This then led to speech pathology being out of sight, out of mind (Claire: Int). Similarly, the amount
of available time within the clinician’s caseload could also facilitate or restrict the amount of presence possible on the acute wards. For example, a clinician in a Type 1 service who *doesn’t have 24 hours a day to spend doing swallowing assessments* (Julie: Int) would not be able to spend as much time as a clinician from a Type 5 service who dedicated *4 to 5 hours a day* (Sue: Int) to ward work. Likewise, establishing a presence and *being acknowledged* (Cassie: Int) on outreach sites could prove challenging when visits were sporadic or infrequent. The nature of outreach has been noted to be non-conducive to building such relations (Hodgson & Berry, 1993).

Table 13.1

*Barriers and facilitators in establishing speech pathology presence*

<table>
<thead>
<tr>
<th>Barriers</th>
<th>Facilitators</th>
</tr>
</thead>
<tbody>
<tr>
<td>• History of recruitment and retention problems</td>
<td>• Consistent staffing</td>
</tr>
<tr>
<td>• Service resourcing not allowing regular time on wards</td>
<td>• Service resourcing allows regular time on wards</td>
</tr>
<tr>
<td>• Clinician motivation resulting in reactive response to dysphagia service</td>
<td>• Clinician motivation resulting in proactive work within dysphagia service</td>
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</table>

As well as being related to the manner in which a service was set up, the ability to be present could also, at least in a small way, be related back to clinician personality and motivation. Having a *particular interest* (Kate: Int) in the acute caseload could potentially contribute to how a clinician made the speech pathology acute service present and visible. It could impact on how proactive or reactive clinicians were in promoting the service and themselves.

*The speakie that I replaced on the med[ical] wards – the consultants didn’t know ... her name, they thought she was a dietitian. I’d been there for 3 months, and, being the demure wallflower that I am, I had all the consultants ... the registrars and the residents, they all knew me. But then, I’m older, I’ve been in male dominated areas, my personality is naturally larger than hers was ... You’ve got to have an impact ... That definitely does affect things.* (Sue: Int)

Decreased physical presence on the wards had the potential to affect the clinician and the service in different ways. The first was the way in which speech
pathology services were used when they were available. For services with a history of staff fluctuations and the related limitations in clinical service provision, having a speech pathologist present often meant that significant time had to be spent re-establishing the service. Because the service had become so used to coping without speech pathology at all, the sudden presence of a speech pathologist did not necessarily mean that everyone would be able or willing to utilise it appropriately.

I realise that it’s hard if... [they] haven’t access to a service: Then you’re going to have to do it yourself and cope. And I realise that’s sort of what’s been happening... We are isolated. There’s not the access to the service 24 hours a day, it’s just reality ... So I don’t mind it, but then I do mind when I’m actually on site and ... they delay the referral to me, or they go and make a recommendation themselves and then say “Oh hey, I thought maybe you should check it to make sure I did it right”. (Julie: Int)

Not being present could also lead to changes in how clinicians were able to practise. As they were not physically there, they were unable to monitor implementation of treatment recommendations and make modifications as quickly as they might otherwise have done. Limited time meant that only the assessment itself could be taken care of. Furthermore, this was only part of the picture. Being present meant that the clinician was visible to other team members. This could be on both a personal level and a professional level. It then meant that the service could be more visible. Through increasing presence, clinicians had the ability to increase referrals. In turn, this made the service and clinician more visible, a cycle. As Cassie (Int) commented: I may go over to the ward to see one person and end up seeing three.

This increased visibility and awareness of the service could then have a flow on effect to how the speech pathologist or department was viewed within the acute ward team. Having a presence could facilitate inclusion into the team, as it allowed the clinician to be present when daily decision making was occurring and hence to contribute appropriately.

Even though we are valued up there and our input is valued, it is difficult ... throughout the day [to be involved in] teamwork and decisions made regarding discharge planning ... With Natalie up there for that additional time, ... she’s been able to go to the weekly discharge planning meeting... That’s made a huge difference as well. (Erin)

The impact of having this extra time available was described by Sue (Int), who noted that a clinician could do the job, that is, assess the patient, in very little time. But the more clinicians were away from the wards, the less impact they could potentially
have on the *bigger picture*. Assessing the patient with dysphagia was one thing; having an impact on the way in which that patient’s care was managed holistically was another entirely. For some clinicians, the restrictions of their current service type could make it more difficult to be present and thereby to have this impact.

Although the literature regarding teamwork does not always discuss the issue of presence directly, there is emphasis on the importance of frequent and ongoing interaction and communication between team members on both a formal and informal level (McCallin, 1999; Wicke, Coppin & Payne, 2004). Time and energy need to be committed for successful collaboration to take place (Sherwood et al., 2002). For that to occur, there is the underlying assumption that a team member will be present and have the time to participate in such interactions.

Anecdotal evidence suggests that speech pathology is often perceived by other professionals, such as physiotherapists, as a “ghost” or “shadow” service within the non-metropolitan Australian acute setting. This is because of the decreased presence (Coyle, 2008, personal communication). Indeed, there are implications for how the team as a whole perceives the speech pathologists’ role within these services. Wimbury, McMaster and Briggs (1990) investigated referral patterns before, during and after the introduction of a dysphagia and communication assessment program. They reported significant differences between referral rates before (4.1%) and after (4.7%) the program, compared with referral rates during the program (15.8%). These findings suggested that only a small proportion of patients requiring speech pathology services were being referred prior to the program, and that without an ongoing presence on the wards referrals reverted to pre-program levels. The physical presence of the speech pathologist acted as a reminder of the service available, and prompted other professionals to refer patients for assessment.

Having a presence therefore entails having the physical time and resources to be there and having a proactive attitude toward being there and working within the team. It entails being proactive in promoting yourself and the service and the team approach. If clinicians want better outcomes, greater adherence and improved teamwork, they have to be there and be seen. They must first have a presence.
13.3 “IT’S ALWAYS BETTER TO HAVE THAT RAPPORT”:
THE IMPORTANCE OF DEVELOPING RELATIONSHIPS
WITH OTHER STAFF

However, simply being present does not guarantee team success (Barr, 1997; Forbes & Fitzsimmons, 1993). Speech pathologists and others around them must also be proactive in developing collaboration: I believe that ... a lot of our job is actually rapport building with staff as much as it is with clients (Cassie: Int).

Developing relationships through the development of rapport with other members of the acute team was frequently discussed by informants as essential to the way in which they worked within their services. The development of social relations is acknowledged as an important factor in facilitating team success (McCallin, 1999; Sherwood et al., 2002). To be seen both as a professional and an individual, all parties need to be committed to developing this rapport and sense of collaboration (Sherwood et al., 2002).

The establishment of rapport went beyond just providing a dysphagia service. Several clinicians commented on the importance they placed on what could easily be misinterpreted as socialising but was actually considered an integral part of developing their team networks. This is consistent with literature in this area (e.g. Creed & Miles, 1996). This ability to see team members as both individuals and professionals had the potential to improve the manner in which a team functioned, thereby improving patient care and outcomes. As Cassie (Int) described it,

It often meant a bit of learning people’s grandchildren’s names ... going and having a chat ... actually spending time with them ... They think all I do is have fun. But that’s what I’ve established, quite a jovial relationship with most of the colleagues.

Erin (Int) also noted the impact on practice: From my experiences up there, ... you often get more phone calls and they’re usually from the staff that know you and interact with [you].

Development of rapport did not occur without effort. There needed to be significant motivation and dedication to the task. The informants had to sell themselves and the service, and they needed to be proactive in doing so. It could take significant amounts of time, in both the short and long term, and was an ongoing process with no clear end. This is consistent with literature in this area (Insalaco, Ozkurt & Santiago,
2006; McCallin, 1999; Sherwood et al., 2002). The ongoing nature of this process was particularly important when considering service resources, which might not allow for this time. If the clinician could not be present, developing rapport became more difficult. In this study, time in the longer term was also a consideration. This tied in with staff recruitment and retention, on the part of both the clinician and other staff with whom they interacted. Without stable staff, those longer term relationships were reported to be difficult to establish and maintain.

_I think it’s always better to have that rapport and knowledge … They sort of know where you’re coming from and have a bit more of an idea and [you are] hopefully able to increase those links. Very hard with the outlying hospitals, you just can’t get to them._ (Claire: Int)

Opportunity was also needed. This was particularly mentioned in relation to Type 1, 2 and 3 services, which were staffed by visiting GPs. These clinicians commented on their limited opportunities to develop rapport with the medical staff, as they were frequently not available due to their own busy schedules outside the hospital setting. This situation has also been identified in the rural health literature (e.g. Hodgson & Berry, 1993; Humphreys & Rolley, 1991).

The development of rapport could also be limited by other team members’ perceptions of the speech pathologist’s role. Rapport was seen by the clinicians as closely related to being part of the team and to overall management, education and respect. It allowed clinicians to work within their environment. With the medical staff in particular, the development of rapport was often closely linked to the notion of respect and being valued as a speech pathologist.

_The relationships I struggle the most to build are with nurses and with doctors. Because there is a power struggle there. I think nursing staff feel threatened by us. And they … are there all the time and I just really need to get them to trust me, that I know they know that person really well, and I might have flown in for 45 minutes or whatever, but that’s my specialty area …. But I think the key to it is rapport building. But I think also in the country we don’t necessarily respect those professional lines that we may do more in a metropolitan centre…. I think those professional lines really do need to be respected._ (Cassie: Int)

In summary, rapport is an important part of development of the acute team. It is a two-way process. Through getting to know other team members a sense of collaboration and unity can be developed. Rapport has also been demonstrated as essential in breaking down strong stereotypes that professional groups hold of each
other (Barr, 1997; Insalaco et al., 2006; Thomas, 1999). This then allows the focus to be
directed towards the provision of patient care (McCallin, 1999). However, development
of rapport takes time, and it becomes more difficult when physical resources restrict
presence on wards and at meetings/rounds. It is also difficult when there is a significant
history of staff turnover, which can result in challenges in development and
maintenance of these relationships. Development of rapport can lead to improvements
in the integration of recommendations as well as to generally more effective team
processes. Speech pathologists can then have an impact on the wider system in which
they practise.

13.4 THE ROLE OF EDUCATION AND KNOWLEDGE

Its like ... “Who can I bring to the dark side today?”... (laughing and using a “Darth Vader” voice) ... “I am your father of knowledge.” (Sue: Int)

Education and knowledge have been identified by many researchers as a key
component in successful compliance and adherence to dysphagia recommendations
(Chadwick, Jolliffe & Goldbart, 2002, 2003; Chadwick, Jolliffe, Goldbart & Burton,
2006; Colodny, 2001a, 2005, 2008; Crawford, Leslie, & Drinnan, 2007; Rosenvinge &
Starke, 2005). Education has been observed to result in enhancing confidence,
promoting inter-professional equality and improving client management (Long,
Kneafsey, Ryan & Berry, 2002). The informants spoke of education in relation to their
dysphagia practice as a powerful tool by which they aimed to improve overall quality of
care.

Informants felt that education and the sharing of knowledge could break down
barriers and help to make sense of what we do as a profession. This has also been noted
in literature related to compliance and teamwork in other areas of health (e.g. Sinuff,
Cook, Giacomini, Heyland & Dodek, 2007; Thomas, 1999). It was perceived that good
education helped to define the speech pathologist’s role within the acute team and why
dysphagia was a medical concern. It made it medically justified. It highlighted (Claire:
Int) the speech pathologist’s role as specialist and distinct from other professionals, yet,
consistent with literature in this area, reinforced the need for a team approach
(Logemann, 1998). Informants thought that this awareness of the speech pathologist’s
role was lacking in undergraduate education for both nursing and medical professionals.
Knowledge of how to use speech pathology within the acute setting did not always
exist, and needed to be promoted. This is consistent with some of the literature, which suggests that even allied health colleagues may find it difficult to define the speech pathologist’s role in its entirety (Insalaco et al., 2006, 2007). For services with a sporadic history of allied health involvement, particularly speech pathology involvement, it was felt particularly important to establish this service identity through education.

*Education is a big thing, I think the reason I come up against so much resistance for thickened fluids came from a lack of knowledge... and a big lack of not having a service here in the first place, or for so long.* (Julie: Int)

Education made clinical practice explicit in that it allowed other professionals and general staff to understand why something was being done. It provided the background to what clinicians did and why. Education was important to ensure that other professionals were aware of what was considered current best practice. It also made clear the implications of poor management. *I really have drummed it in, and ... this is a bit naughty, but they end up a bit nervous to make the wrong decision, because [of] the consequences of someone aspirating* (Kate: Int).

The manner in which education could be undertaken varied from service to service. Education could be delivered both formally and informally. Most of the literature in this area focused on formal education sessions which assess participant knowledge both pre- and post-training (e.g. Heritage, 2001; Magnus, 2001). Several informants spoke of similar formal education sessions within their services. However, as also identified in the literature, providing ongoing formal education opportunities required resources in terms of clinician presence and time. Most of the clinicians recognised that education was an ongoing need that could not be met by a one-off training session. This was due to turnover of nursing, kitchen and medical staff, and also to the need to maintain skills after the initial training session.

*Obviously with the reduced FTE we aren’t able to do ... regular training ... with the nursing staff, food services, even medical staff too ... It’s just difficult to keep the education up. I think... if we had the opportunity ... every 2 months or every 3 months to do an education session with everybody then it would ... probably solve ... those sorts of issues.* (Erin: Int)

Informants reported that nursing and medical staff interest and ability to attend formal training sessions also needed to be considered. This has also been noted in the
literature (Magnus, 2001; Miller & Krawczyk, 2001). Awareness of other professionals’ understanding of why training is important is imperative. Informants spoke of difficulties in getting other staff to attend, and when they did they saw themselves as preaching to the converted (Celia: Int). Miller and Krawczyk (2001) observed that training was unlikely to be well received if other staff perceived that caseload responsibilities were being transferred to them. Informants in this study commented that in a busy workload there simply might not be sufficient time for other professionals to attend formal training on dysphagia. This time constraint has also been acknowledged in studies of nursing practice (e.g. Kneafsey, Long & Ryan, 2003; Long, Kneafsey & Ryan, 2003).

Given these resource challenges in providing formal education sessions, clinicians spoke of other ways in which they attempted to convey information about their service. Although informal education was not discussed in the literature, informants described it as very valuable, allowing the clinician to relate education directly to current context and patients and to give it relevance (Erin: Int). This could perhaps be compared in part to the practical components of some training programs that are discussed in this area (e.g Heart and Stroke Foundation of Ontario, 2005, 2006; Heritage, 2001). Sue (Int), for example, was keen to make use of a new radiology system which would allow her to educate medical staff informally by showing them videofluoroscopy results on the wards when discussing patients.

However, there was a fine line between sharing information, promoting knowledge and interest, and a little speechie telling (Claire: Int) others what to do. The differences in how the information might be presented and then accepted were significant. Education was closely linked to rapport. Informal education was discussed as part of developing relationships on the acute ward. It was an ongoing process, and as such was time consuming. This more informal education, which was tied in with socialising, meant that the clinician was able to work on a more collegial level with other staff rather than being seen as the teacher. It was more of a two-way process, a sharing of information from one professional to another, rather than working in a deficit model where the speech pathologist holds all the knowledge (Sue: Int). This sharing of information could be seen as a move towards a more interdisciplinary model of practice. It has been reported that nursing staff with whom speech pathologists work might often feel as if they are just there to carry out other professionals’ orders, rather than being included as part of the decision-making process for patients’ overall care (Long et al.,
Shifting the focus of education to a more collegial format encourages a two-way process and makes the education itself immediately transferable to the current context. This has also been identified as a key factor in working in this area (Miller and Krawczyk, 2001).

Education was acknowledged by all clinicians to be important in supporting the care of patients with dysphagia. Both formal and informal education could only take place when the resources and time were available and when all parties were motivated and interested to participate either for their own learning or to improve patient care and outcomes. It needed to be easily related to patient care, and directly applicable. Education was seen by the majority of clinicians as an ongoing, integrated process, one which was important to improving implementation of recommendations and therefore client outcomes. Thus it could assist the speech pathologist to have an impact on the overall culture of the acute medical team.

13.5 IMPACT OF SERVICE TYPE ON BEING PART OF THE ACUTE TEAM

The ideal of the dysphagia team has been mentioned frequently in the literature as being integral to positive outcomes for patients with dysphagia (Chapter 2). Literature in this area takes for granted a functioning team environment. However, little investigation has been undertaken of the components involved in achieving this status.

Clinicians spoke of ways in which they perceived their role within the acute service, and how they thought others saw their role. There was not always a sense of teamwork within these settings, and clinicians spoke of their position within this team as not always optimal. Clinicians from Service Types 1, 2 and 3 tended to describe their position within the acute team as being down the line (Cassie: Int). They were not the first point of contact when it came to assessment of dysphagia. These clinicians felt that their profile ought to be better, and their role within the team should be acknowledged. There was some disparity between the way in which clinicians described their current position within the team and the manner in which they wanted to be perceived. This contrasted with clinicians in Type 4 and 5 services, who perceived themselves as a functional part of the team. In dysphagia assessment following stroke, their role was defined through clinical pathways and it was acknowledged generally within their services that speech pathology was to be contacted and utilised in a specified manner.
Previous experience of working within a range of non-metropolitan service types allowed Claire and Erin to describe differences. Each spoke of the challenges of being part of the acute team within a smaller sole clinician service such as a Type 1 service. Claire (Int) described this as being a consultant, where speech pathology was called in when necessary, did the dysphagia assessment and left the recommendations to be followed up. This service resourcing did not enable her to be a real team member as she was at the larger service, because she could not be involved in patients’ holistic care. Similarly, Erin (Int) described speech pathology at a smaller service as not being considered part of the acute team. The use of speech pathology services was not seen in that environment as a routine part of practice, and the speech pathologist was seen as a foreigner coming into the ward. This was in contrast to the Type 5 service in which she currently worked, where speech pathology was considered an integral part of the acute team, especially for stroke assessment and management.

The literature indicates that for a team to be effective it needs to be supported at several levels. This includes the clinical level, the organisation level and the health service level (Freeman, Miller & Ross, 2000). It must be in an organisation’s culture to support the team and consequently there must be resources allocated (Sherwood et al., 2002). Jones and Altschuler (1987) stated that ideally this would include clinical and administrative support, reflected through adequate funding. It would also include experienced, well trained staff, and appropriate equipment (Jones & Altschuler, 1987). Informants in this study felt that at a hospital and health service level this did not always occur. Management was perceived to not always understand and support allied health, and this is consistent with other reports in this area (Hodgson & Berry, 1993). This resulted in some speech pathologists feeling they were being set up to fail. I don’t think the NSW [Health Department] direction for health is necessarily thinking too much about allied health (Claire: Int).

Speech pathologists are expected to comply with national guidelines for assessment and management of dysphagia following stroke. However, the data in this study strongly suggest that on many levels they do not have the tools to make this possible. Although there is a general push for increased team approaches to health care generally and dysphagia specifically, it is argued that for the informants in this study the notion of working in a team was rarely the reality. In the Australian context, it appeared that speech pathology did not always have recognition as an integral part (Erin: Int) of
the acute team. Although clinicians might see themselves as part of a team, effectively acting as part of a team was almost impossible due to their inability to be part of regular ward-based activities. Being a consultant (Claire: Int) did not enable clinicians to have an impact (Sue: Int) on the wider system. They could do their assessment and make the recommendations, so at the individual level they were performing their role. But they had little input into what happened for patients after they have left. How the patients were managed, how recommendations were followed, timeliness of reviews, and involvement in team decisions regarding ongoing care were frequently beyond their capacity.

Another factor underlying the challenges faced in this area was that for many speech pathologists, the notion of a dysphagia team was, perhaps mistakenly, taken for granted. As a result, it was not always made explicit to other potential members, who might not have this understanding of the benefits of a team approach in this area. As a result, many non-metropolitan speech pathologists had not formed a team and team relations as such.

It has been observed that although many health professionals in Australia have been educated in a multi-disciplinary team environment, the undergraduate curriculum did not always develop the skills necessary for multi-disciplinary practice following graduation (Duckett, 2007).

Other professionals also need to be willing and able to participate in the team development process. The findings from interviews with the clinicians suggest that this might not be the case. Research into the development of successful teams has found that simply assuming a team exists does not result in favourable outcomes (Forbe & Fitzsimmons, 1993; Freeman et al., 2000). The team development process must be explicit. McCallin (1999) noted that for this to occur, good communication and ongoing dialogue were essential, and all team members needed to be committed to the process. There must be a common goal (McCallin, 1999; Sherwood et al., 2002). Without this point of reference, speech pathologists might be perceived by other professionals as trying to abdicate their responsibility, rather than working in a team manner that is ultimately intended to benefit patients with dysphagia and improve quality of care (Miller & Krawczyk, 2001). In terms of the widely acknowledged model of team development proposed by Tuckman (1965), most clinicians interviewed in this study were still working at the “forming stage”, where the team was not actually moving anywhere with regard to outcomes. This was despite the fact that some of the clinicians
had been in position for some time, and some clinicians had significant clinical experience. This stage of development could also be related to the service type classification system, with the smaller Type 1, 2 and 3 services having more difficulty with team relations than the higher service types. This situation appeared to be related to the resources available. It has been noted that limited resources within rural and remote communities can inhibit the development of multi-disciplinary teams (NRHA, 2004).

The implications for patient care are significant. By being unable to contribute effectively as part of the acute medical team, speech pathologists had limited ability to provide appropriate and high quality care for patients with dysphagia following stroke. As emphasised in Section 2.1.4, it is widely acknowledged that a multi-disciplinary team lies at the core of best practice in both dysphagia and stroke management, and thus leads to improved quality of care and improved outcomes. As Miller and Krawczyk (2001, p. 383) wrote, “If we see ourselves as operating a whole systems approach to dysphagia management and contributing to genuine inter-disciplinary team working, we are less likely to find ourselves working in isolation in the field.”

The National Rural Health Alliance (2004) has also advocated for allied health professionals to be acknowledged as an essential part of the multi-disciplinary team in non-metropolitan areas. This collaborative approach to care has positive outcomes for clinicians, the service and patients with dysphagia. If this collaboration does not occur, adverse consequences are likely to arise. An inability to be part of a functioning team can result in a breakdown in incorporating speech pathology recommendations into a patient’s overall care plan. This failure to have an impact on the wider system has possible implications for the quality of care patients receive in non-metropolitan services being lower than that received in other services.

13.6 CONSEQUENCES OF BREAKDOWN IN IMPLEMENTATION OF RECOMMENDATIONS

Issues surrounding non-compliance with speech pathology recommendations are complex and often interwoven with many other factors. Non-compliance was seen by all the informants as an important factor in how they were able to assess and manage patients with dysphagia following stroke. Informants reported that several key factors could influence compliance with their recommendations: power and autonomy,
knowledge, education and training, communication breakdown and the ability to monitor processes. These could all in turn be related back to speech pathology as part of the acute medical team and the underlying team processes that allowed the clinician to have an impact on the wider acute medical culture.

Implementation of recommendations is part of the overall assessment and management process for the patient with dysphagia. Compliance with recommendations either exists or it does not. It is linked to the speech pathologist’s assessment and is part of the process of delivery of quality care. Recommendations can be made, but unless someone carries them out as intended, they are futile. Speech pathologists have control over recommendations: they make them. But when making these recommendations, they need to be aware of what is possible within the setting, what is possible and appropriate for the patient, and who will be involved in enacting the recommendations. For this, they must have an awareness of the personnel who will carry out these plans, their level of understanding and competence to do so (education and training), their willingness to do so (power and autonomy, relationships with speech pathology) and their ability to do so (staffing and resources). Failure to consider these factors can result in non-compliance. Compliance is closely related to other aspects, such as how the clinician is viewed within the team, departmental history, education and awareness.

Despite the potential significance of poor compliance for patient outcome, limited research has been undertaken into compliance in relation to dysphagia in the acute medical setting. Most of the literature has focused on compliance issues as a direct result of knowledge and education levels (Chadwick et al., 2006; Colodny, 2001a; Rosenvinge & Starke, 2005), with only a small amount alluding to broader issues (Miller & Krawczyk, 2001). Although education and knowledge are undeniably critical factors in determining compliance, it is also argued that factors related to the speech pathologists’ role as part of the acute medical team need to be considered when trying to understand the broader picture of integrating and implementing information into the overall care plan. If education is the only key to compliance, it could be assumed that provision of appropriate education would result in dramatic improvements in compliance with recommendations. However, the limited evidence available suggests that education sessions alone do not always lead to a high level of compliance (e.g. Rosenvinge & Starke, 2005). Improving compliance is multi-factorial, and involves a careful consideration of the context in which recommendations are being made. For compliance to occur, the clinician must have an impact on the overall system.
The theme presented in this chapter was the importance of considering more than just the assessment process as undertaken by the clinician. It was about considering how that process takes place and how the recommendations from that assessment are supported. This related to the role of speech pathologists within the acute medical service, how they perceived that role and how others perceived it.

All patients, regardless of severity of stroke, are entitled to be cared for in a facility that not only has current practice guidelines but also implements them in a systematic manner. A policy or procedure is only of benefit if staff are committed to putting it into practice. Quality improvement is “irrelevant without teamwork” (Fratallì, 1994, p. 254). The implications go beyond speech pathology itself into the team within the institution as a whole. Nursing, medical, kitchen staff and other allied health all have a duty of care as members of the dysphagia team to abide by guidelines in place.

By focusing on non-compliance as a separate entity we are at risk of not understanding and rectifying why it occurs in the first place. Compliance with recommendations is important, and needs to be acknowledged. However, it is the reasons underlying non-compliance that hold the key to improving outcomes for patients with dysphagia following acute stroke. The result of these challenges of resourcing and team dynamics is that speech pathologists are unable to make an impact on the acute medical culture in which they practise. Consequently, there is breakdown of integration of the speech pathology assessment into the overall care plan, and patients with dysphagia following stroke might receive care that is not based on best practice standards. The consequences of recommendations not being carried through can be seen from two perspectives: consequences related to speech pathologists and consequences related to patients with dysphagia following acute stroke. These are explored in Chapter 14.
CHAPTER 14
SOMETHING’S GOT TO GIVE:
THE CHALLENGE OF RESOURCE ALLOCATION
FOR PROVISION OF DYSPHAGIA SERVICES
FOLLOWING ACUTE STROKE

The results of the study presented so far have illustrated that inequities exist in many aspects of service provision to patients with dysphagia following acute stroke in non-metropolitan NSW and Victoria. The possibility of someone or something missing out so that dysphagia assessment services might be provided could involve many facets of clinical practice for the clinicians interviewed. This theme emerged in Phase One of the study and became more evident in Phases Two and Three. This chapter details who or what missed out in the provision of dysphagia assessment services, and the notions of equity and ethics within this context. Reference is made to specific examples from all phases of this study, and discussion is undertaken in the context of literature in this area.

Initially, the clinicians in Phase One of the study spoke of other clients, such as paediatric and outpatient clients, missing out in order to provide dysphagia services. However, on further investigation through Phases Two and Three, it became clear that the notion of someone missing out was far more complex than an occasional reshuffling of clients, and that it affected not just smaller services but the whole spectrum of services undertaken by speech pathologists in non-metropolitan areas. Who or what missed out, and to what extent, was largely dependent on the service resources, as described in Phase One through the classification system. In Service Types 1 and 2, nearly everyone and everything was at risk of missing out in order to provide an acute dysphagia service. As the service type moved along the continuum with increased resources for adult speech pathology services, more specific client groups were at risk of missing out. A summary of areas that missed out in order to provide dysphagia services to patients following acute stroke is presented in Table 14.1. These areas are each discussed in more detail, followed by the implications for clinical practice and the objective of equity in non-metropolitan service delivery.
### Table 14.1

*Areas that missed out in order to provide a dysphagia service*

- Other clients missed out: paediatrics, adult communication, adult outpatients, less urgent dysphagia patients
- Speech pathologists missed out
- Patients with dysphagia missed out
- Service missed out

#### 14.1 OTHER CLIENTS MISSED OUT

To see the patient with dysphagia, many of the clinicians interviewed agreed that sometimes other clients had to miss out. Due to the sporadic nature of the acute caseload outlined in Chapter 10, even services which had dedicated time for adult acute service sometimes had to reorganise other aspects of their caseload to meet demand.

The acute referral by its nature was felt to take priority over other referrals in the caseload. As discussed in Section 11.2.1, prioritisation within services occurred on several levels, with acute patients being prioritised above community clients, and dysphagia patients being prioritised above other patients on the acute wards. The differences in prioritisation systems between service types related to the underlying resources available. This also dictated the extent to which other people or services might miss out due to the prioritisation process. For example, a clinician within a Type 1 service might have a straightforward system of “dysphagia seen first, then other clients”. This might be managed on a case-by-case basis. In contrast, a clinician from a Type 5 service might have a detailed system of which patients on the acute wards were to be seen as priority (e.g. a new referral would be seen first, then someone who had recently had a diet upgrade, etc.). This hierarchy would be established at departmental level to provide clinicians with structure regarding who to see and when. These prioritisation systems resulted in several main client groups potentially missing out: paediatric outpatients, adult patients requiring communication management, and other dysphagia patients of a less urgent nature.

For the busy clinician with a mixed caseload, paediatrics formed a significant portion of the caseload. When acute referrals peaked, it was therefore the paediatric clients who often had their appointments cancelled or rescheduled. This was particularly the case when time was not dedicated to attend acute patients, such as in Service Types
1, 2 and 3. So if someone’s come in on the wards and they need to be seen then... outpatients will have to wear that ... the inpatients will take priority (Celia: Int).

In some services, changes had been made to limit how often outpatients needed to be cancelled. These included scheduling of time for adult patients and seeing adult acute referrals within certain timeslots only. However, if acute referrals exceeded this allocated time, then either the clinician or the patient with dysphagia would miss out. This is discussed later in this section.

In addition to paediatric clients missing out, clinicians from the spectrum of service types also noted that communication and rehabilitation patients might not receive a service if acute dysphagia referrals exceeded available resources. As Cassie (Int) stated, It’s really horrible but rehab[ilitation patients] probably doesn’t get as high a priority with my time, because its ... such small gains over a long period of time, with a busy case load.

Time-intensive communication therapy often missed out when prioritised after dysphagia assessment and management. Erin (Int) described this as putting a bandaid on everybody rather than being able to undertake longer term or more time-intensive therapy which might be clinically warranted.

Some clinicians described how they felt when having to cancel or reschedule other clients’ appointments. A sense of obligation and commitment to clients made it challenging for some clinicians to do this. Conversely, there were also some clinicians who did not perceive this as a problem. Examples of these conflicting views are:

*I’ve have a lot of difficulty with that, from the point of view of my commitment to the other clients, and because I was so tightly booked there wasn’t always somewhere else to schedule an appointment for the people you were cancelling.* (Jane: Int)

*If there is something within the hospitals of what I consider to be urgent then I cancel paediatric time in order to provide that service to them .... I don’t have a problem with putting off somebody’s therapy a day or a week for somebody else’s assessment of their nutrition.* (Claire: Int)

Informants stated that prioritisation systems were based on clinical risk, with dysphagia being a bit more urgent and detrimental to your health. There was a need to attend to this patient group before a minor problem became a major one, and complications arose that would cost more to amend (Magn & Weller, 1980). The potential legal ramifications (Claire: Int) of not prioritising dysphagia appropriately
were also discussed as a rationale for the structure of such systems across all service types. Erin (Int) noted that in her department additional staffing from the community health service was used to meet the demand for acute services, due to the significant clinical risk associated with dysphagia. This was perceived as justified due the more urgent medical nature of acute patients in comparison to community health patients.

Body and McAllister (in press) wrote that caseload management systems have become a focus within the speech pathology profession in recent years. As discussed in the literature in Chapter 3, clinicians have to make decisions daily on how to distribute finite resources to make best use of the health dollar. This microallocation of resources means that judgements must be made regarding which groups would benefit more from services, and which groups might miss out in order for this to occur. This then raises the debate: is a person with dysphagia following stroke more worthy of treatment time than a child with a speech disorder or an adult with a communication impairment?

The majority of the clinicians in this study argued that the acute nature of dysphagia as a serious medical condition outweighed the immediate needs of an outpatient population with communication impairment. In the short term, this might indeed be the case, and from the perspective of a medical model is justified (Brock, 2004). Research has suggested that patients can also understand the need for rationing and prioritisation, at least in the short term, especially when sicker patients require services (Cross, Goodacre, O’Cathain & Arnold, 2005). However, for both groups, there were also quality of life implications that needed to be considered. Section 3.1.1.2 reported on the increasing need for dysphagia services and the consequent impact on service provision. Armstrong (2003) suggested that speech pathologists working within the medical model might be contributing to this shift. Several authors have argued that patients with dysphagia were seen at the expense of patients with communication impairments in the acute setting (Armstrong, 2003; Code & Heron, 2003; Enderby & Petheram, 2002), a situation which could potentially further decrease speech pathologists’ role in the latter area (Armstrong, 2003). This appeared also to be a trend in the current study. The frequency with which reallocation of resources towards patients with dysphagia occurred, and its impact on outcomes for paediatric and adult clients who were considered a lower priority, were both unknown.

There is no simple answer when considering the rationing and prioritisation of caseload demands. Choices in allocation of resources have been noted to be based on
moral values (Orb, 2007; Roulstone, commenting on a scenario in Body & McAllister, in press). The present findings have shown that to prioritise one individual over another requires a value judgement of who is more needy at that point in time. For many clinicians in this study, the medical and legal implications of dysphagia outweighed the presenting needs of community health and rehabilitation clients. How frequently this choice needed to be made was largely based on service type resourcing. This matter had equity and ethical implications for the provision of services to some groups.

14.2 UNMET NEED MISSED OUT

All the clinicians interviewed identified areas of unmet need within their service or community. Unmet need occurred for individuals or groups who were identified as potentially able to benefit from speech pathology input, but did not access the service for any reason. This was also mentioned by clinicians in Phase One (Section 7.4). Interestingly, although all clinicians in Phase Two commented on how their services could be improved, only one clinician identified stroke care specifically as an area of concern when discussing areas of unmet need. Claire (Int) felt that general stroke care ... is very poor.... Across the spectrum, ... I feel there [are] guidelines that aren’t being met.

Some clinicians were aware of gaps within their current service delivery for the wider caseload, by virtue of referral patterns. Delays in receiving referrals, and receiving them through channels other than what was standard, led some clinicians to conclude that there were potentially more individuals whose needs were not being addressed. For Claire (Int), receiving referrals through community contacts for stroke patients after their discharge from hospital highlighted gaps within the system. Similarly, Sue (Int) had found that referrals came through unorthodox channels such as family members and kitchen staff. Kate (Int) was also aware of potential service needs within her setting. Using her knowledge of what would be expected in terms of patterns of referral, she had noticed that groups such as people with progressive neurological disease were absent from her caseload. This made her wonder what was happening for these people. When only one speech pathology service existed within an area, identification of unmet need could thus be based on which groups currently accessed the service and which did not.
If an awareness of unmet need was acknowledged, and if groups that were not receiving service were identified, what was stopping informants from offering these clients a speech pathology service? Factors related to service resources, personal preferences and interests, and other professionals were discussed as limiting what could be achieved. As in Phase One of this study, several clinicians spoke of their reluctance to open the floodgates (Claire). By this they meant that by acknowledging and promoting their service to various groups experiencing unmet need, they were likely to create a demand that they could not meet. This was due to current resourcing constraints that might already have seen their service stretched to capacity. This applied to both inpatient referrals, particularly for some of the less resourced services, and outpatient referrals. Kate (Int) said that because of the lack of staffing... we haven’t overly chased new referrals, although she was happy to see people if they approached the service.

This hesitation about promoting the speech pathology service could also be seen from an individual clinician perspective as a form of self-preservation. Claire (Int) observed: If I’d opened those flood gates ... I wouldn’t have been able to cope with it. This posed a further dilemma, because if there was no waiting list it could be interpreted that the clinician was functioning within current resource levels, and therefore the service might not be in as strong a position to advocate for additional funding. This was particularly the case for less resourced services, which did not necessarily have funding to see inpatients.

Other professionals could also impact on unmet need. This could be through their failure or reluctance to refer, or through poor awareness (Claire: Int) of what speech pathology might be able to offer some clients. It could also be because there had been a history of such significant staff turnover that it had been impossible to implement programs in a multi-disciplinary manner due to the big gaps (Claire: Int) in allied health services.

Resources, therefore, played a significant role in which “gates” could be opened and which must remain closed – for the time being at least. Professional codes of ethics, such as that of Speech Pathology Australia (2000) espouse that “we do not knowingly withhold information about the nature and extent of the services available to our clients and the community” (Speech Pathology Australia, 2000, p. 2). This means that speech pathologists have an obligation to ensure that individuals know about services. However, this is difficult when clinicians are also aware that they might cause distress or harm when adequate services cannot subsequently be provided. This raises an ethical
debate: are clients or patients better off being unaware of a service and how it could benefit them or their loved one, therefore existing without knowledge of the service at all? Or are they better off being aware of the service and its potential benefits, but being unable to access it?

Kenny (2008) noted that caseload management policies may lead to ethical conflict. This conflict surrounded the principle of fairness versus that of beneficence (Brock, 2004; Kenny, 2008). Should a service be fair, and provide a limited, equal service to all, or should it provide a quality service to a small group while other clients go without a service? There is no easy answer to this question. In the current study, for many of the informants this dilemma applied to both the inpatient acute caseload and the outpatient community health caseload. It resulted in some individuals not receiving a service that was clinically warranted, because of the department’s inability to service this need. This then resulted in inequity of service provision for some client groups.

14.3 THE SPEECH PATHOLOGIST MISSED OUT

Speech pathologists themselves were also identified in this study as at risk of missing out. Chapter 13 highlighted the issue of compliance and how this related to the speech pathologist’s position within the acute team. It was argued that clinicians from different service types functioned within the acute environment in different ways. Service type resourcing could therefore impact on how clinicians were able to work within the non-metropolitan acute medical environment.

The issues reported in Chapter 13 could therefore result in a number of potential consequences that impacted directly on the speech pathologist working within these settings. The main points are summarised in Table 14.2.

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<td>Potential consequences for clinicians working within the non-metropolitan setting</td>
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<tr>
<td>• not considered part of the acute medical team</td>
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<td>• not valued or recognised for professional contributions</td>
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<tr>
<td>• limited compliance of others with speech pathology recommendations, resulting in time being spent to rectify errors, complete incident reports and ensure adequate outcomes for patients</td>
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These consequences could then result in difficulties for speech pathologists in undertaking their job, which could in turn lead to decreased job satisfaction.

For many clinicians, the sense of commitment to see all patients and clients requiring a service meant that they themselves would miss out. Although acknowledged by the clinicians in this project as not ideal, many clinicians felt it was preferable for them to miss their lunch or to work back late than for a client or patient to miss out on therapy. Some also considered it an expected and accepted thing to do, part of the speech pathology culture.

If there is a real clinical risk, then we would go up lunchtime or do what speechies do: go up after work. We try not to do that, but sometimes it happens. (Erin: Int)

Just to accept that there were going to be peak times when you’d be out of control, be over the top in stress levels and working extra hours, in your own time. (Jane: Int)

By missing breaks and working overtime, clinicians were risking their own health to attend to that of others. Although they tried to minimise the frequency of this behaviour, there was acknowledgement of the stress that it caused. This ability to manage a busy and challenging caseload could also affect the job satisfaction felt by some clinicians. Erin (Int) noted the need to ensure that staff were coping:

It depends on the staff as to how they cope ... We’ve had staff that have been “Oh yeah OK, whatever, well I did what I could”. But we’ve had others that have sort of “Oh, you know, it’s a nightmare up there!” … They get quite stressed with that. So we’ve had to... sit down and look at, “OK, so who have we got? And what really needs to be done today? And how can we do that?” and try and support them in doing what they can do. They need to do a good job, because ... that can certainly affect your morale and your satisfaction level with working up there.

Ultimately, working in this manner was not viewed as sustainable. Burnout was a risk that some clinicians realised and actively sought to manage. Claire (Int) said that making sure she did not over-work was important, to ensure that I can keep thinking and provide better care for the people.

McAllister (1995, p. 141) wrote that that “trying to do it all” could lead to management perceiving that staffing and resourcing were adequate. Professional stress and burnout have been highlighted as issues in rural and remote areas, where clinicians often try to meet community needs with inadequate resources (NRHA, 2004). In an Australian study investigating reasons for attrition in 18 speech pathologists from a range of clinical and location backgrounds, McLaughlin et al. (2008) reported that stress
arose from the “perceived compromise in the quality and quantity of clinical care” (p. 161). This also appeared to be the experience of many of the clinicians in this study. They were all committed to ensuring that the patients received the best care that they could provide. However, at the same time, they were also aware that what they could provide within their service limitations was not always considered best practice. This consciously or unconsciously placed clinicians in this study in a challenging position, both from equity and ethical perspectives.

14.4 PATIENTS WITH DYSPHAGIA MISSED OUT

Despite the prioritisation of patients with acute dysphagia before others in the caseload, and speech pathologists perhaps seeing them in their own time, patients with dysphagia were also at risk of missing out within some services. This related to the lack of provision of quality care, which occurred because of the resourcing for adult service provision as described in the service type classification system. The manner in which the service was organised could have a significant impact on what clinicians were able to offer. When the service consisted of a general caseload with a small portion of adult-related time (such as Service Types 1, 2 and 3), several problems could arise.

- **Competition with other parts of the caseload**

  Response to referrals and follow-up appointments could be restricted due to the clinician’s competing caseload demands. This could mean delays as to when patients with dysphagia could be seen, restricted times in which they could be seen, and challenges in terms of timing and frequency of review appointments. This could result in clinicians seeing patients when time permitted rather than seeing them on the basis of clinical need. The impact of this on the patient was described by Claire (Int):

  *My schedule* could mean another day without anything orally [for the patient] and that can just be really disheartening to some of them and really upsetting and uncomfortable for them as well. I’m a big person for quality of life and so that makes it hard.

  For services which did not have quarantined time for adult services, or had significant fluctuations in referrals, peak periods could also result in having to *fit* (Claire: Int) time in to see patients for dysphagia assessment. It could also mean being
rushed (Julie: Int). The dysphagia assessment then became another thing to fit into an already busy timetable, and could place the patient at risk of not receiving an adequate assessment. As Julie explained, *I try not to be rushed, because I want to do it thoroughly, but I don’t have time…. because I’ve got other cases to see*.

**The availability of physical resources and systems**

In addition to the manner in which human resources were set up within a service, physical resources were also important when considering the ways in which patients with dysphagia might miss out. As discussed in Section 8.1.4.1 and Section 11.4, many clinicians lacked on-site access to videofluoroscopy, and clinicians who did have it often reported difficulties with the equipment that might limit some patients following stroke from accessing the facility. Lack of this equipment was reported in Section 11.4.1.3 to result in changes to the manner in which assessment was undertaken and recommendations were made. Clinicians reported being more conservative in their management, with the result that patients could be on modified food and fluids for longer than clinically indicated. Lack of access to this instrumental assessment when it was clinically indicated resulted in clinicians being unable to assess patients according to what was considered “gold standard” in the literature. Chapter 2 outlined the importance of instrumental assessment such as videofluoroscopy in the management of patients with dysphagia and highlighted its role in the assessment process. The findings from Phase One showed the restrictions encountered in accessing the procedure for many patients. One could argue that if some patients were denied a recognised form of assessment based on availability and accessibility issues, rather than the decision being based on clinical need, this constitutes an inequity in service provision that could result in decreased quality of care.

A frequently mentioned challenge faced by generalist clinicians in Phases One and Two of this study was that of maintaining the systems to support ongoing dysphagia practice. This included ensuring that policies and procedures were in place and updated regularly. Jane (Int) found that this aspect was *really under-developed* within her service. She felt that it was *a constant battle to keep up to date with that kind of thing*. She was not alone in this experience. The importance of development and maintenance of systems and protocols for the management of stroke has been recognised in the
literature, and was discussed in Section 3.1.2 in relation to ensuring equity of quality of care (e.g. Duckett, 2007; National Stroke Foundation, 2007).

At its most basic, a protocol is a documented record of what is expected to take place under certain circumstances. It helps to define and establish roles and responsibilities for tasks, in order to make explicit what should occur in day-to-day practice. By establishing and creating such documents, a department and the larger organisation of which it is a part agree to implement these defined rules or guidelines for patients in their care. Each professional is that service or hospital’s link to best practice within a particular discipline. It is their professional duty as clinicians to put in place guidelines that are current and based on the best available evidence at that time, given the resources that they currently have available. However, the reality of undertaking this process is complex. Time and resources as well as skill in creating such documents are often scarce. This is especially significant for the sole, generalist clinician who is at a disadvantage in terms of being the only therapist and having to develop guidelines across two or more completely different caseloads (adults and paediatrics).

Without the support of such systems and guidelines, although clinicians may be able to undertake components of their job (such as the dysphagia assessment itself), the manner in which clinicians work within the service as a whole may be compromised. This becomes a particular issue when clinicians work within a service type that does not manage patients with acute stroke on a regular or frequent basis. Certain systems in this study were often noted to be relatively less developed, and there appeared to be less support for the role of speech pathology in many of the Type 1, 2 and 3 services represented here. Balding (2008, p. 45) asserted, “Put a good person in a poor process and the process wins every time”. As a result of inadequately developed processes, patients might not receive the same level of service overall that they would perhaps receive if admitted to a better resourced service with improved systems in place. Development of such systems needs to occur at the professional level, but there is acknowledgement that this needs to be supported at a higher level through the provision of adequate resources and an adequate clinical governance system (Australian Council on Health Standards, 2008).
• **Maintenance of skills**

Challenges were identified in maintaining skills when opportunities to manage patients with dysphagia were sporadic in nature and low in number. When adult patients formed only a small portion of the caseload, it became more difficult for some clinicians to *justify* professional development opportunities in this area.

*A lot of the managers don’t see it as a high priority ... Why do you want to go to that? It’s only 5 per cent of your case load, can you justify it? ... Well I still push for it because ... with dysphagia it’s so crucial to get it right.* (Claire: Int)

To undertake professional development, some clinicians reported financing workshop and conference attendance personally. When combined with the travel and accommodation expenses of attending professional development events in metropolitan areas, the overall cost could be significant. As noted in Section 11.3.3, difficulties in accessing professional development could lead to reliance on what had been learned at university or in previous positions. The difficulty in skill maintenance could be further exacerbated for clinicians in a sole position. Although speech pathology graduates are expected to have base level competency in the clinical assessment of dysphagia, most authors agree that dysphagia is a specialist area requiring a specific and advanced skill set (Groher, 1994). A commitment to maintenance of competence is considered an important part of clinical practice (Speech Pathology Australia, 2000). If speech pathologists do not maintain the requisite skills and knowledge base, patients with dysphagia are at risk of missing out in terms of quality of care.

• **Use of the evidence base to support clinical practice**

The reasons underlying evidence–practice gaps are acknowledged to be complex (Buchan, 2004). Clinicians from all service types acknowledged the importance of utilising evidence in their clinical practice. However, the limitations of context were reported to create barriers to embracing evidence-based practice within their services (Table 14.3). The use of clinically proven techniques, as opposed to research findings, perhaps reflected the limitations in the evidence base itself. As Jane (Int) commented: *Of course it’s relevant, but until the evidence base is better, until there’s more that we can apply to day to day practice ...I mean, you feel a bit set up to fail.*
Not all informants had confidence and experience in the use of evidence-based practice. Some clinicians acknowledged that although they were keen to use evidence in their practice, their ability to do so was limited by their individual skills in accessing and critiquing research literature. This was seen as more of an issue by clinicians who had been in the workforce for longer and had consequently not received this training at an undergraduate level, or had received training that was now outdated. McAllister (2006) noted that the skills and resources required to undertake evidence-based practice were not universally present in the profession. Restricted training budgets for professional development (McAllister, 2006) were also mentioned by informants in the current study as constraints on learning about use of evidence. Changes in how new speech pathologists were being trained were recognised to be part of a “culture shift” in the manner in which speech pathology as a profession formulated clinical decisions. Dollaghan (2004) similarly observed that the evidence-based practice movement contrasts with traditional practice in speech pathology.

Table 14.3
Challenges identified in embracing EBP

- Level of evidence/quality of evidence/amount of evidence available
- Time, especially in a busy generalist caseload or when a sole clinician
- Resources (e.g. journal and database access)
- Confidence, expertise and understanding of how to go about searching for evidence and translating it into clinical practice
- Not part of the service’s culture; lack of support

In this study, the most frequently mentioned challenge inhibiting the uptake of evidence-based practice was time. Time to search for literature, time to read it, and time to implement it was particularly difficult to find in a busy caseload. This was heightened further if the clinician managed a generalist caseload and/or was a sole clinician. As Claire (Int) reported, I would read an article from start to finish when I was at uni but now I don’t think I’ve read an article probably all the way through. This lack of time resulted in evidence-based practice being driven … through necessity (Sue: Int), when the clinician had no other option, rather than being part of day-to-day practice. It was therefore considered a luxury (Sue: Int). This view contrasted with
literature in this area, where it was stated that the use of evidence was essential if speech pathologists were to practise in an efficient and effective manner (Elliott, 2004).

In addition to the barriers listed above, informants were also able to identify strategies that they felt might facilitate adoption of evidenced-based principles within their settings. These are summarised in Table 14.4. The adoption of a culture of evidence-based practice at a departmental, service and professional level was seen by the clinicians as integral to the process.

Table 14.4
Facilitators identified by informants in the adoption of evidence-based practice

- More time set aside for undertaking reviews of evidence
- Acknowledgment and provision by management of the resources required
- Better on-line access to relevant journals and text
- Assistance by universities and professional body in terms of updates with evidence
- Training sessions on how to access and use the evidence
- Collaboration with other services, both here and overseas, in terms of the evidence that they have put into practice and how they have gone about it
- Use of competency tools and professional registration to monitor standards of practice
- Adoption of a culture of EBP within the service and department

The implementation of evidence into clinical practice is a difficult task (Kitson, Harvey & McCormack, 1998). However, patients have the right to expect treatment that is based on the best possible research (Whitehead, 1994). Miller (2001) warned that professionals must be diligent in ensuring that they did not “develop bad habits, or allow the constraints of their employment to lead them from preferred practice models” (p. 63). Indeed, this was a risk faced by many clinicians in this study. To ensure quality through “doing the right thing and doing the right thing well” (Fratalli, 1994, p. 248), clinicians needed to ensure that the services they were providing were based on current evidence. Duckett (2007) stated that “health professionals’ attitudes to updating their knowledge, using contemporary evidence in treatment and learning from mistakes, impact on a patient’s quality of care” (p. 66). The limited acknowledgement in this study of uptake of evidence-based practice principles therefore posed concerns for
maintenance and provision of high quality services. The result could be that patients with dysphagia missed out on the best available care.

- **Challenges in teamwork**

As well as the challenges related to providing patients with dysphagia care based on current evidence, challenges recognised in Chapter 13 related to team management also impacted on the service provided to patients with dysphagia following acute stroke. As discussed throughout this study, a multi-disciplinary team approach to dysphagia and stroke care has been strongly advocated in the literature as a means to improve patient outcomes. When a speech pathologist could not be a functioning part of this team, as described in Chapter 13, there were ramifications for the care of patients with dysphagia following stroke. When recommendations were not implemented appropriately there was risk of an adverse event. Untimeliness of reviews might compromise a patient’s quality of life if he or she is on an excessively conservative diet. Alternatively, the patient might not tolerate the diet initially recommended and might develop pneumonia. Being involved in decisions regarding patient care is important. The way medications are given to a person with dysphagia, the kinds of diet and fluid that are appropriate, the kind of rehabilitation that may be required, the follow up and support required following discharge: these are all areas that require speech pathology input as part of the team. Chapter 13 suggested that within many services, team approach to patient care did not always occur. Breakdowns in implementation of stroke clinical guidelines raise questions regarding quality of care received by some patients, and also highlight potential inequities in service provision. Potential risks to the provision of quality care are listed in Table 14.5.

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<td><strong>Potential risks to the provision of quality care</strong></td>
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- Frequency and timeliness of assessment and reviews not meeting stroke guidelines due to service resource limitations
- Service arrangements as a generalist position with a very small portion of adult time, resulting in difficulty maintaining skills and justifying professional development
- Service arrangements and other commitments leading to having to fit appointments in and “rush” them
• Lack of access to equipment which the literature deems appropriate (e.g. videofluoroscopy)
• Service arrangements leading to differences in how patients are managed relative to best practice (e.g. more conservative, not referring as readily for videofluoroscopy)
• Challenges in terms of team management due to staffing issues (e.g. other allied health) and not being part of team
• Challenges in terms of utilising and implementing the evidence base

14.5 WHY SOMEONE OR SOMETHING HAD TO MISS OUT

According to Brock (2004, p. 201), “it follows from resource scarcity that some form of health care rationing is unavoidable”. This problem could be influenced at many levels. At the level of the individual speech pathologist, a clinician’s personal views on what should be a priority could have an impact on what may miss out and to what extent. This could be influenced by many factors, including clinical expertise, clinical preferences, confidence with certain caseloads, and perceived need of certain areas or client groups. At the speech pathology department level, the influence could come from the history of the department, including previous clinicians’ areas of preference and perceived need. Pre-existing relationships with others, and how speech pathology worked within the acute team could also have an impact on what occurred. This could affect how recommendations were carried out and how the role of the speech pathologist was valued. At a hospital level, the way the speech pathology profession was acknowledged and valued by senior staff and management, and the funding background within that service were important. The state health department level was influential in terms of overall policies related to regional, rural and remote allied health funding. Health department consideration of the importance of allied health at a policy level would have an impact on how these policies would be developed and funding allocated. At a national level too, influence arose from the development of guidelines related to clinical care, such as the development of the stroke clinical guidelines (National Stroke Foundation, 2007) which were intended to guide clinical practice within this area and thus should have an impact on the manner in which funding was allocated.

This allocation of finite resources is not a new concept in health care. Limited resources generally, even in many of the Type 5 services, led to the need to prioritise
and manage busy caseloads. The manner in which a service was organised often appeared to be related to historical factors rather than need. McAllister (2006) noted that rather than increasing staffing, the increased demand for speech pathology services had been responded to through client prioritisation policies. These policies were often in “conflict with the principles of evidence based practice for the management of communication and swallowing impairments” (McAllister, 2006, p. 78). This situation leads to dilemmas for clinicians in providing ethical services within these workplace restrictions (Kenny, 2008). It is a difficult task indeed to advocate against restrictions that threaten to impact on the quality of care provided to the individuals requiring speech pathology services (Kenny, 2008).

As a result of these limitations in resources someone or something missed out: There was simply not enough to go around.

14.6 CONCLUSION

It’s all a bit overwhelming really. I do feel exhausted. Exhausted. Is it that I’m a sole speechie in a rural hospital in Australia? Or is it that I’m a speech pathologist? (Sue: Int)

It is possible that some of these resource issues are not limited or restricted to the non-metropolitan environment, and may also occur within metropolitan settings. It has been said that speech pathologists working in acute medical environments “may be constantly juggling caseload priorities to manage new referrals” (Kenny, 2008, p. 5). However, the nature of the service organisation and resources within many non-metropolitan services could possibly exacerbate these difficulties. There are often no other services or clinicians to share the load. It is up to one small department or one sole clinician to be everything to everyone. Because of this, some clinicians may risk spreading themselves too thin, and not being able to do a lot for anyone at all, including themselves. As Sonies (1996) wrote, “how can the clinician satisfy the patients’ and families’ preferences while adhering to the professional ethics under which they are bound to perform and economic pressures that may force them to limit their services?” (p. 87).

It has been demonstrated throughout this thesis that inequities may exist on many levels. They begin at the service level as described in the classification system of Phase One. This in turn creates a continuum of less to better resourced speech pathology departments for the provision of adult services. It results in differences in
how caseloads are managed, the distances involved in travel, and what unmet need exists. Context also plays a role in the time available to establish systems, attend to patients and other clients, and develop skills. This then potentially impacts on the quantity and quality of care through dictating the manner in which clinicians can service this population. Although clinicians may be urged to strive for equity in service provision (Speech Pathology Australia, 2002), the reality of the non-metropolitan context makes this goal difficult. As a result, inequity exists in the provision of dysphagia services in non-metropolitan areas of NSW and Victoria following acute stroke.
CHAPTER 15
SUMMARY, CONTRIBUTIONS AND
FUTURE DIRECTIONS

This research explored the provision of dysphagia assessment following acute stroke in non-metropolitan areas of NSW and Victoria. A mixed method, three phase approach was adopted to explore the manner in which dysphagia assessment was provided and the issues underlying the provision of this service. This chapter presents the unique contributions made by this research, a summary of the research, limitations and clinical implications, and suggested future areas for study.

15.1 UNIQUE CONTRIBUTIONS OF THIS RESEARCH

This research had a number of unique aspects:

- No other study has investigated the provision of dysphagia services to patients following acute stroke in non-metropolitan Australia.
- No other study has considered the provision of dysphagia services following acute stroke in relation to the equity objective.
- This is the first study to specifically explore barriers to adopting best practice in relation to dysphagia assessment after stroke in non-metropolitan areas.
- This is the first study to consider the context of service provision for acute dysphagia services and how this context may impact on the services provided.

These contributions are discussed in this chapter in relation to their implications for future work in this area.

15.2 SUMMARY OF FINDINGS OF THIS STUDY

The exploratory nature of this research resulted in a number of questions being addressed in the course of this study (see Table 4.1).

Part Three presented the results of a telephone survey which aimed to explore the provision of dysphagia assessment through investigating a broad range of related areas. Data regarding the availability of speech pathology services for adults with acute
dysphagia were presented, including the demographics related to each service. From these data, patterns emerged which allowed the development of a classification system of speech pathology services for adults. The aim of this system was to facilitate description of the type of service that could be provided based on resourcing levels as described by the clinicians interviewed. This system highlighted that not all speech pathology services for adults were created equal. This had implications for the frequency and type of service that clinicians could provide.

Geographic availability of speech pathology services for adults was presented in terms of the frequency of services provided with current resourcing. These data highlighted that gaps existed between services in relation to how frequently a speech pathologist was able to attend to acute referrals. There was therefore significant variation across different hospital sites in how a patient might be managed, based on speech pathology resourcing in each area. A higher number of sole clinician, Type 1 services were also noted in NSW in comparison to Victoria. These differences in the service resources resulted in a range of issues related to clinicians’ professional development and support, as well as the time and resources directly allocated to the provision of adult clinical services. In turn, these resourcing differences had the potential to impact on equity of service delivery and quality.

Part Three also presented data pertaining to the presence of written documents to guide assessment and the availability and use of a range of non-instrumental and instrumental assessment tools. The findings indicated variation between service types in what was available to undertake assessment of dysphagia, and the time frames in which services were provided. The differing availability and usage of tools suggested differing patterns of care based on geographic location. This had the potential to result in inequity in service frequency, timeliness, provision and quality.

The classification system and related resourcing described in Part Three was investigated further in Phase Two, and the findings presented in Parts Four and Five. In Chapters 10, 11 and 12, resourcing was explored in relation to its impact on service provision to patients with dysphagia following acute stroke. Presentation of each step of the provision of dysphagia assessment was undertaken, and discussed in relation to service context. This was then discussed in the context of the literature and national guidelines related to service provision following acute stroke. The results showed that context of service provision played a significant role in how clinicians provided dysphagia assessment services. Clinicians reported concerns regarding how they were
able to work within the acute medical setting, and the direct implications for the care of patients with acute dysphagia following stroke. Despite the clinicians not being overtly concerned with the manner in which they undertook the clinical assessment itself, it was evident that this process was affected by the environment in which they worked.

Part Five presented two major over-arching themes related to the provision of dysphagia assessment following acute stroke in non-metropolitan areas of NSW and Victoria. The first theme (Chapter 13) detailed how speech pathologists worked within the context of the acute medical system in non-metropolitan areas, and how this context in turn impacted on what they could provide. It highlighted the challenges faced by many speech pathologists working in this area, and showed that for the clinicians interviewed in this study the provision of dysphagia assessment following stroke involved much more than just providing a clinical bedside assessment: It involved making an impact on the broader context of the acute team and how the clinicians were able to function within it. This then had an effect on what they were able to provide and achieve for their patients.

The second major theme, presented in Chapter 14, related to the concept of equity. For clinicians to provide a dysphagia service to patients following acute stroke, someone or something had to miss out. Who missed out and to what degree related to the service type classification system presented in Phase One of the study. The impact of resourcing on a range of stakeholders was discussed in relation to the literature and the equity objective. It was highlighted in this section that the provision of dysphagia assessment indeed raised questions of ethics, equity of access and quality for many based on their geographical location.

15.3 LIMITATIONS OF THIS RESEARCH

As with any research, the findings of this study should be considered in light of the study limitations.

It should first be acknowledged that the results of this study reflected a point in time. Like most studies which use surveys and interviews to obtain data, this study reflected informants’ circumstances at one particular stage. The nature of health care as a dynamic entity may mean that some of these findings no longer apply. However, given the informants’ comments regarding the nature of their service contexts and
historical precedent, it is likely that the most of the findings presented in this thesis are relevant for consideration.

Similarly, the recruitment of a single informant from each service in Phase One of the study, as well as the recruitment of a limited number of clinicians in Phases Two and Three also means that findings must be interpreted with caution. Consistent with qualitative research principles, the findings represented informants’ perspectives and their perceptions of reality within their services at a particular point in time. Whether these perceptions reflected the actual processes is difficult to determine with certainty. However, this limitation was considered when determining the study design, and hence resulted in the three phases of the study which allowed for triangulation of the data. The results of this research indicated that the processes and issues identified by clinicians were not limited to an individual, a service, an area health service or a state level, but rather were reflective of the comments made by a broad range of informants across two states. Similarly, although some missing data points were reported in Phase One of this research, the high response rate and broad geographical representation of informants resulted in adequate representation of clinicians from a variety of service types.

It was also acknowledged that despite an intention for the focus groups to generate further exploratory discussion surrounding the themes, in practice this true focus group discussion did not occur. This was likely to be a reflection of several factors, including the material used to stimulate discussion being too focused, the telephone format of the focus group, and the researcher’s inexperience with facilitating such sessions. This resulted in the data being more individual than group focused. However, the groups did capture the range of opinions raised in the previous two phases. This added to triangulation of the data, and also supported saturation of the themes presented. This study was also limited by the focus on the clinician perspective in provision of dysphagia services. No attempt was made to investigate the perceptions of other stakeholder groups such as service managers or patients. It is acknowledged that it would be beneficial to complement the data in the current study with patient outcome data or an independent analysis of processes. This was beyond the scope of the current research, but would be a valuable area for future investigation.

The generalisability of the results of this research to other states in Australia and to the international context is also unknown. New South Wales and Victoria are acknowledged as densely populated states in Australia, and consequently contain a large number of health services. However, this could mean that these states are better
resourced than some other states and territories in the country. Considering that inequities were found in the provision of dysphagia services following acute stroke in these two states, it is possible that other parts of Australia are experiencing these problems on an even greater scale. In addition, other countries with areas of similar population density and distribution may also experience issues related to geography and resource allocation that lead to inequity of service provision as identified in this study. Such questions require further research.

15.4 IMPLICATIONS OF THIS RESEARCH

The implications of these findings for clinical practice, service management and policy development are far-reaching.

Implementation of the current evidence base and stroke clinical guidelines remained problematic within many of the speech pathology services in this study. Context evidently played a significant role in the manner in which services could be provided. This resulted in inequities in the provision of dysphagia services following acute stroke, resulting in possible differences in quality of care.

These differences were reflected in both the manner in which services were able to be provided, and the type of services provided. For example, the availability and use of instrumental assessment was highlighted as one area of concern. Debate and discussion surrounding the role of videofluoroscopy and how restrictions could be minimised in non-metropolitan areas needs to be undertaken. There is scope for improvement in this area, but a collaborative approach is required if progress is to be made. This would mean involvement at all levels, from the practising clinician and the service in which they work, through to regional, state and national bodies.

Changes in practice over time have resulted in the need to re-consider the role of medical professionals and speech pathologists in the process of dysphagia and authorising videofluoroscopy procedures. The nature of speech pathology practice has changed, but many of the processes in this area have not. Similarly, the issues surrounding the use of screening assessments require further attention. Investigation of alternatives such as telehealth also need to be undertaken. Until the profession has a united approach to this area, it will remain challenging for clinicians in all service types. As a profession, consideration needs to be given to how dysphagia as a clinical area is managed in the future, and what our scope of practice will be.
Arising from this research, an example of one area to be considered includes the formalisation of agreements between facilities. At many of the services involved in this study, this is something that has evolved historically, rather than being based in formal discussion. This ad hoc approach to service agreements has consequently resulted in restrictions in accessibility for some patients requiring dysphagia services, especially videofluoroscopy.

The consideration of relationships between facilities is not only important for videofluoroscopy. There is also a need to ensure that support networks are formally established and conducted. For many services within this study, this appeared to be an informal system of relationships. Although it is acknowledged that informal systems and relationships have an important role to play in how clinicians may access support in relation to their dysphagia practice, for some clinicians, the establishment of these relationships can be challenging. There needs to be an understanding that there is an expectation of support and that it is not a sign of weakness. This is of particular consideration for services that may hire new graduates or sole practitioners.

The establishment of more formal relationships may also assist clinicians from less resourced services to develop their resources related to dysphagia. This study acknowledged a need for some speech pathologists to re-evaluate policies that are related to service provision at a service level. This is a task that would benefit from being undertaken not just as an isolated service task, but on perhaps a broader framework such as region or sub region. By undertaking such work in this manner, resources can be maximised and reduplication and inconsistencies managed appropriately.

By developing further networks and establishing work at a regional level, it is also possible that clinicians may be in a better position to advocate for their services and patients. Advocacy is required for speech pathology as a profession to increase the profile of clinicians practising in this area. To further support this, data need to be collected regarding unmet need and need for current services in an ever-changing population. For many clinicians, this may involve ‘opening the floodgates’ and raising some of the ethical dilemmas discussed in Chapter 14. The manner in which this task is approached therefore needs to be discussed and facilitated at levels higher than the clinician alone. To this end, it is suggested that speech pathology as a profession needs to take a leading role in the organisation of dysphagia services at state and national levels.
There is also a need to consider the medico-legal implications of practising without the appropriate level of resources. Clinicians are entitled to be aware of any risk in which they may place themselves or their patients. It is argued that this awareness should begin at university. There is a need to ensure that students and graduates are well informed prior to obtaining employment in non-metropolitan areas regarding resource limitations and the ethical, professional and legal implications related to practice in this area.

Although this study has focused on the provision of assessment to patients with dysphagia following acute stroke, it must be noted that many of the findings presented in this thesis may also be relevant to the provision of ongoing intervention services. Considering the significant challenges faced by many of the clinicians in this study in the provision of a single assessment session, the ongoing demands of a patient with dysphagia may result in further challenges in managing this caseload. The impact of resources on the provision of quality care in this area therefore warrants urgent attention.

Table 15.1 summarises the potential implications of this study, and the stakeholders involved.

Table 15.1

<table>
<thead>
<tr>
<th>Implications of this study</th>
<th>Stakeholders</th>
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<tr>
<td>There are inequities in provision of dysphagia services following acute stroke, resulting in possible differences in quality of care. Advocacy for patients and services needs to be undertaken</td>
<td>Patients, clinicians, health service managers, policy makers</td>
</tr>
<tr>
<td>Advocacy is required for speech pathology as a profession to increase the profile of clinicians practising in this area.</td>
<td>Clinicians and profession</td>
</tr>
<tr>
<td>There is need for dialogue and debate on:</td>
<td>Clinicians, profession, health service managers, policy makers</td>
</tr>
<tr>
<td>- level of services and service provision that are acceptable as minimum standard</td>
<td></td>
</tr>
<tr>
<td>- current need for services, rather than decisions and servicing being based on historical precedent</td>
<td></td>
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<tr>
<td>- how services are distributed and funded</td>
<td></td>
</tr>
<tr>
<td>- if a hospital cannot provide a certain level of speech pathology service, transfer to another service with more appropriate resources may be in the best interests of the patient: need to advocate strongly for</td>
<td></td>
</tr>
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</table>
This to happen if quality of care is to be more equitable.

There is a need to investigate:
- research into low-tech assessment and screening tools
- telehealth and its applicability to dysphagia service provision.

There is a need for speech pathologists to re-evaluate policies at a service level that are related to service provision.

Restrictions to videofluoroscopy need to be addressed through:
- formalisation of agreements between facilities
- investigation into speech pathologists being able to sign their own request slips
- investigation of alternatives such as telehealth
- debate and discussion surrounding the role of VF and how restrictions could be minimised in non-metropolitan areas.

There is a need to consider the medico-legal implications of practising without the appropriate level of resources.

There is a need to ensure that students and graduates are well informed prior to obtaining employment in non-metropolitan areas regarding resource limitations and the ethical and professional and legal implications.

There is a need to ensure that support networks are formally established and conducted: that there is an expectation of support and that it is not a sign of weakness.

Data need to be collected regarding unmet need and need for current services in an ever-changing population.

Speech pathology needs to take a leading role in the organisation of dysphagia services at a state and national level.

15.5 FUTURE DIRECTIONS

This study has provided a starting point for advocating for increased resourcing in the adult service provision of speech pathology in non-metropolitan areas. To date, there has been little information available to support clinicians in this area, and this study is the first step in exploring such matters in the non-metropolitan context. This
research was undertaken from the perspective of clinicians practising in this context. Future research needs to focus on the impact of this resourcing on direct patient outcomes in the area of dysphagia.

This study highlights the need for more research into low-tech clinical assessment and the use of screening assessments. As highlighted in Chapter 2, there is still much research to be undertaken in both of these areas. Service delivery is also an area that could benefit from further investigation. Investigation is further required into appropriate management in the absence of a speech pathologist. Research into alternative modes of delivery, such as telehealth, also needs to be undertaken and compared to current management, involving aspects of the clinical bedside assessment and videofluoroscopy (e.g. Perlman & Witthawaskul, 2002). This would provide knowledge that allowed clinicians to make informed decisions regarding the most appropriate method of management for patients within their service, ensuring the best use of current resources, and ensuring that quality of care was not being compromised in the delivery of services in non-metropolitan areas.

From an educational perspective, it is also imperative that universities consider how students are prepared for practice in areas that might not have ready access to equipment. Students need to graduate with a clear picture of what may or may not be possible in non-metropolitan practice, while still understanding their professional obligation to patients to ensure the best quality care they are capable of providing. This involves ensuring that students are prepared to advocate on behalf of patients when necessary to ensure that decisions and management are undertaken based on clinical need, and not compromised by service resources. Students and clinicians also need to be made aware of the medico-legal aspects of dysphagia practice, such as those presented by Tanner (2008), and the implications of not providing what is considered best practice in this area.

As a profession, speech pathology may benefit from a more unified approach to the development and sharing of resources, from the level of day-to-day equipment and support to the level of policy development. Speech pathologists in better resourced services have an obligation to support and assist those in less resourced places to ensure adequate quality of care for all patients following stroke. Likewise, clinicians in less resourced services need to seek and accept this support if their patients are to receive an equitable service.
Similarly, the role of the speech pathologist within the acute medical team setting needs to be investigated further. The National Stroke Foundation Guidelines (National Stroke Foundation, 2007) provide the profession with an ideal opportunity to expand and solidify speech pathology’s role as leader within this area. This is important for future growth and acceptance of the profession both at the local level and nationally. However, a unified approach to this work is required. Development of stronger links with other health professionals at an early stage, as well as explicitly teaching future clinicians how to work with other team members and lead a dysphagia team, may both benefit this process.

As a profession, speech pathology needs to debate and discuss many issues. Perhaps the most pressing one arising from the findings of this study is the debate around minimum standards of service and service provision. If guidelines exist to outline what is expected in terms of quality care, then speech pathologists need to determine if a lower standard is acceptable based on differences in geographical location. Or if the profession decides that these guidelines are indeed applicable to patients and our profession regardless of geographical location, we must then advocate strongly to change the manner in which services are funded and provided. As a profession, speech pathology has an ethical obligation to challenge historical precedent and improve the current standard of care to patients with dysphagia following acute stroke in non-metropolitan areas.

15.6 FINAL REMARKS

_Clinicians must advocate for the provision of these medically necessary services to maximise the survival and well-being of their patients. Swallowing practitioners should not be coerced into modifying the appropriate evaluation and care plan to fit the reimbursement model._ Martin-Harris, 1999, p. S17

Although referring to the US model of funding reimbursement, Martin-Harris has here summarised the main point of this research and, in the researcher’s opinion, could just as easily be referring to the service type restrictions presented and discussed throughout this thesis.

All patients are entitled to a level of care consistent with current best practice. Whether they choose to utilise these options for care is their choice. To have that choice, however, a clinical service needs to be available within the location. It also must
be considered that patients and their families, during a time of immense stress and shock, cannot always be expected to comprehend or, in many cases, even advocate for services such as speech pathology. Most people would not be aware of the speech pathology role in stroke management or of speech pathology’s important role in dysphagia management. Combined with decreased services, this lack of awareness could lead to inequitable access.

This thesis has presented research into the provision of dysphagia assessment following acute stroke within non-metropolitan areas of NSW and Victoria. From the perspective of clinicians practising in this field, it has highlighted the impact of context on the provision of services. Geography has been demonstrated to have an influence on the availability and quality of service provided to patients with dysphagia following acute stroke. These data suggest that significant work needs to be undertaken if inequities in service provision are to be removed for patients in some non-metropolitan areas of NSW and Victoria.
REFERENCES


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Kruger, J. (Manager, Policy and Communications Division, Australian Physiotherapy Association. (11 Feb 2009, email). Personal communication regarding physiotherapy radiology referral rights.


Health Care (Appropriation) Act, Act number 74 of 1998 as amended C.F.R. (1998). (This compilation was prepared on 3rd July 2008 taking into account amendments up to Act No. 52 of 2008.)


Stoke Unit Trialists’ Collaboration. (2003). Organised inpatient (stroke unit) care for stroke (Cochrane Review). *The Cochrane Database of Systematic Reviews, (1).*


APPENDIX A

PHASE ONE TELEPHONE SURVEY

AVAILABILITY AND ACCESSIBILITY OF SPEECH PATHOLOGY SERVICES IN RURAL NSW AND VICTORIA

PHONE SURVEY FORM

Hello, is [participant’s name] there please? It is [Lucie Shanahan OR Michelle Smith] from Charles Sturt University. I made an appointment with you/her/him a few weeks ago regarding the rural speech pathology service survey.

Are you able to undertake the survey now? [If “no”, then re-book time; if “yes, continue.]

As we discussed previously and as was outlined in the information sheet, this survey is gathering information regarding speech pathology services in rural NSW and Victoria. Did you have any questions before we get started? I’d like to check with you that you are happy for us to audiotape our conversation, so that we can refer back to your comments later. [If “yes”, begin tape recorder and proceed. If “no” or “not sure”, say “Audiotape recording will help us to make sure that our notation of your response is accurate, and so help to validate our data. But if you don’t want us to audiotape record the conversation, we can complete the survey without recording it.” If the participant now gives consent, begin tape recorder and proceed. If the participant doesn’t want the conversation recorded, do not tape record and begin the survey.]

1. Firstly, I wanted to check that ______________ [town name] is the base for your SP department or service. Yes / No [If “no”, ask for the name of the base town: _________________. If “yes”, proceed to Q.2.]

2. How many speech pathologists are there in your service / department, firstly in terms of fulltime equivalents?
   EFT:
   ________________________________________________________________

Now, in terms of the number of people:

   No. of people: ______________________________________________________

   [If the participant is the only SP in the department, go to Q. 4. If there is more than one SP in the service, proceed to Q. 3.]

3. Are all of the SPs in your department or service based in ______________ [town name, as given in Q. 1]? Yes / No [If the answer is “yes”, go to Q. 4.]
   If the answer is “no”, ask: What is the name of the ______________
   based?
   ______________

   __________________________  __________________________
4. Does your department or service provide care for:
   
   a) adults only;
   b) children only;
   c) a mixed population of adults and children?

5. Does your department or service have any inclusion or exclusion criteria to determine the sorts of clients who can access your service?  
   Yes / No
   
   [If the answer is “no”, go to Q. 8. If the answer is “yes”, proceed to Q. 6]

6. What are the criteria?  
   [write notes here; transcribe verbatim later]
   
   __________________________________________________________________________
   __________________________________________________________________________
   __________________________________________________________________________

   [If there are no exclusions, go to Q 8. If there are any exclusions, proceed to Q 7.]

7. Which service or organisation provides services to these excluded clients?
   __________________________________________________________________________

8. At which towns in your service area does your department provide regular services?  
   [List on the attached sheet, and include the base town. Also, ask questions 9 to 11 about each town listed.]

9. In which settings does your department provide services in [town xxx]? For example, do you work at a school or community health centre, etc.?  
   [Circle all that apply, on the attached sheet]

10. What client groups can access your department’s service at [town xxx]?  
    [Circle all that apply, on the attached sheet]

11. How frequently does your department provide services at [town xxx]?  
    [List for each setting in each town on the attached sheet]
Response sheet for questions 8 to 11

[For question 8 to 11: If there is more than one setting or client group at any town, check either that the frequency is the same across all settings and client groups, or list the frequency for each setting and client group separately.]

<table>
<thead>
<tr>
<th>Town</th>
<th>Setting(s)</th>
<th>Client Groups Serviced</th>
<th>Frequency of Service</th>
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<tr>
<td>CHC</td>
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<td>AI / AO / PI / PO</td>
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<td>Hospital</td>
<td>AI / AO / PI / PO</td>
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<td>School</td>
<td>AI / AO / PI / PO</td>
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<td>Multipurpose service</td>
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<td>Nursing home</td>
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<td>Other _________</td>
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</table>
12. Are there any towns in your service area at which you don’t routinely provide SP services? (have copy of map with you)
   Yes / No. [If “yes”, proceed to questions 13. If “no”, go to adult services section, beginning with question 15; OR go to question 15 if the department does not provide services to adults.]

13. Which towns are these? [List in the table below.]

14. [Ask for each town listed for question 13] Where do clients from [town x] typically access SP services, if they need them?

Response table for questions 13 and 14:

<table>
<thead>
<tr>
<th>Q. 13 Towns not Routinely Serviced</th>
<th>Q. 14 Alternative Access Points</th>
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</tbody>
</table>

15. I just want to check: Does your department provide any services to adults at any time? Yes / No [If the service / department provides only paediatric services, go to Q. 22. If the service / department provides any adult services, proceed to Q. 16.]

Adult services section:

Now I want to ask you some questions specifically about the adult services provided by your service / department.
16. *How much EFT/hours is devoted to adult services in your department?*

________________________

17. *Does any member of your service / department provide services for adults with dysphagia?*  Yes / No  
[If “no”, go to Q 20. If “yes”, proceed to Q. 18.]

18. *How much EFT is devoted to adult dysphagia services in your department?*

_____________

If you’re not sure, can you estimate?

[tick if applicable]  ☐ estimate

19. *In what settings are those services provided (e.g., acute hospital ward, multipurpose services, nursing homes)?*

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

**Hospital services section:**

[If no adult dysphagia services are provided within a hospital setting, go to Q. 22. If at least some of these services are hospital-based, proceed to Q. 20.]

[Write responses for Q. 20 to 21 in the table overleaf.]

20. *For each site serviced, approximately how many acute beds are serviced by your department?*  [Read out the categories, in the table overleaf, if necessary.]

21. *What is the frequency of outreach or visits to [each site given in Q.20] ?*
Response sheet for Q. 20 to 21.

<table>
<thead>
<tr>
<th>Hospital name</th>
<th>Q. 20 Acute beds serviced by SP at the site [Tick the approp. box.]</th>
<th>Q. 21 Frequency of outreach / visit to this site</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Base)</td>
<td>□ Less than 50 beds (please specify no) _____</td>
<td>□ Inpatients come to clinician at a 'base' hospital; speech pathologists do not travel</td>
</tr>
<tr>
<td></td>
<td>□ 50-150 beds</td>
<td>□ Needs basis only</td>
</tr>
<tr>
<td></td>
<td>□ 150-250 beds</td>
<td>□ Daily</td>
</tr>
<tr>
<td></td>
<td>□ 250-350 beds</td>
<td>□ More often than weekly but not daily</td>
</tr>
<tr>
<td></td>
<td>□ Over 350 beds (please specify no) _____</td>
<td>□ Weekly</td>
</tr>
<tr>
<td></td>
<td>□ Less than 50 beds (please specify no) _____</td>
<td>□ Between weekly and fortnightly (incl. fortnightly)</td>
</tr>
<tr>
<td></td>
<td>□ 50-150 beds</td>
<td>□ Between fortnightly and monthly</td>
</tr>
<tr>
<td></td>
<td>□ 150-250 beds</td>
<td>□ Other (please specify)</td>
</tr>
<tr>
<td></td>
<td>□ 250-350 beds</td>
<td></td>
</tr>
<tr>
<td></td>
<td>□ Over 350 beds (please specify no) _____</td>
<td></td>
</tr>
<tr>
<td></td>
<td>□ Less than 50 beds (please specify no) _____</td>
<td>□ Inpatients come to clinician at a 'base' hospital; speech pathologists do not travel</td>
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<tr>
<td></td>
<td>□ 50-150 beds</td>
<td>□ Needs basis only</td>
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<td>□ 250-350 beds</td>
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<td></td>
<td>□ Over 350 beds (please specify no) _____</td>
<td>□ Weekly</td>
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<tr>
<td></td>
<td>□ Less than 50 beds (please specify no) _____</td>
<td>□ Between weekly and fortnightly (incl. fortnightly)</td>
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<td>□ 50-150 beds</td>
<td>□ Between fortnightly and monthly</td>
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<td>□ 150-250 beds</td>
<td>□ Other (please specify)</td>
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<td>□ 250-350 beds</td>
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</tr>
<tr>
<td></td>
<td>□ Over 350 beds (please specify no) _____</td>
<td></td>
</tr>
</tbody>
</table>
22. **Does your department offer telehealth services to outlying hospitals for the assessment/management of acute dysphagia?**  Yes / No

Now I would like to ask you some questions regarding the speech pathologists in your department who provide acute adult services. [If none, go to Q. 39.]

[Write responses to Q. 23 to 24 in the table below.]

23. **Please estimate the years of experience in dysphagia assessment that the relevant speech pathologists have.** [Please complete table for as many as applicable.]

24. **Describe the caseload serviced by each of these speech pathologists.**

<table>
<thead>
<tr>
<th>Speech pathologist 1</th>
<th>Q. 23 Estimated Years &amp; Types of Experience</th>
<th>Q. 24 Caseload Treated by this SP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Adult only / Mixed adult &amp; paed</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Speech pathologist 2</th>
<th>Adult only / Mixed adult &amp; paed</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Speech pathologist 3</th>
<th>Adult only / Mixed adult &amp; paed</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Speech pathologist 4</th>
<th>Adult only / Mixed adult &amp; paed</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Speech pathologist 5</th>
<th>Adult only / Mixed adult &amp; paed</th>
</tr>
</thead>
</table>

Now I would like to ask you some questions regarding your department’s protocols for dysphagia assessment.

25. **Does your department have a set written protocol or a clinical pathway for assessment of dysphagia?**  Yes / No  [If “no”, go to Q. 28. If “yes”, proceed to Q. 26.]

26. **Does your department specify a response time for initial dysphagia assessments for acute clients?**  Yes / No  [If “no”, go to Q. 28. If “yes”, proceed to Q. 27.]
27. What is this period?  ________________________________

28. Does your department utilise:
   ☐ a published clinical bedside assessment? (please specify)
   ________________________________
   ☐ your department’s own assessment protocol?
   ☐ neither?

29. Is there an alternative dysphagia protocol in place (that is different from the one used at your base) for sites that may only be visited occasionally by your service?  
   Prompt ‘what do you do on a weekend or public holiday’  Yes / No  [If “no”, go to Q. 31. If “yes, proceed to Q. 30.]

30. Can you describe this protocol?  [transcribe verbatim response.]
    ________________________________
    __________________________________________________
    __________________________________________________
    __________________________________________________
    __________________________________________________
    __________________________________________________
    __________________________________________________
    __________________________________________________
    __________________________________________________
    __________________________________________________
    __________________________________________________
    __________________________________________________
    __________________________________________________
    __________________________________________________
    __________________________________________________
    __________________________________________________
    __________________________________________________

31. Is nursing training in dysphagia assessment and management completed by your department?  Yes / No  [If “no”, go to Q. 33. If “yes”, proceed to Q. 32.]

32. How often?
    __________________________________________________
    __________________________________________________
Specific tools for dysphagia

Now I would like to ask you some questions regarding specific tools used to assess dysphagia.

33. Which tools are commonly utilised within your department for the assessment of dysphagia? [Read out choices, and tick all that apply.]
   - Clinical bedside examination
   - Cervical auscultation
   - Videofluoroscopy
   - Pulse oximetry
   - FEES (Fibreoptic Endoscopic Evaluation of Swallowing)
   - Other (please specify)

34. Are there any restrictions regarding the access of videofluoroscopy for acute patients? [DO NOT read options out. Of the options given below: tick all that apply, and prompt the participant with options if they are not specifically mentioned. When prompts are given, note this by ticking the prompt box. Later, transcribe response verbatim and attach.]
   - no restrictions to access
   - availability
   - expertise
   - time
   - finance
   - equipment
   - other (please specify)

   - closest videofluoroscopic, modified barium swallow suite is located at / in & how far from base
   - prompted
Regarding support for clinical work:

35. **Is your department involved in any mentoring in relation to dysphagia assessment and management?**  Yes / No  [If “no”, go to Q. 39. If “yes”, proceed to Q. 36.]

36. **Specify the type of mentoring. Is it:**
   - [ ] From other hospitals?
   - [ ] To other hospitals?

37. **Please specify the hospitals involved:**
   ____________________________________________
   ______________________________________________
   ______________________________________________

38. **Is this mentoring:**
   - [ ] formal?
   - [ ] informal?

39. **Imagine you are living in an ideal world, where there are no resourcing or staffing constraints. How frequently would you like your department to be able to provide a direct service in order to provide quality care to:** [ask re each population defined below. Record responses verbatim]:
   (a) a paediatric inpatient?
   (b) a paediatric outpatient?
   (c) an adult inpatient?
   (d) an adult outpatient?

40. **Imagine that ideal world again. Consider travel by your clients to your services. What would be reasonable expectation of travel in kilometres and time for?**
   - Daily therapy
   - Weekly therapy
   - Monthly therapy
   - Less frequently

**Prompt ‘Does season affect distance/time?’**
[Record verbatim. Add prompt questions for the different frequencies specified in Q 39, if necessary.]

41. **Would you be interested in participating in future research of this nature?**  Yes / No / Maybe

This concludes this survey – thank you very much for your time.
APPENDIX B
CODE LIST FOR PHASE ONE DATA ENTRY

Code set 1: Q4
1 adults only
2 children only
3 a mixed population of adults and children

Code set 2: Q7
n/a no exclusions apply
Y exclusions, but alternative service available for those excluded
N exclusions, but no alternative service available for those excluded

Code set 3: Q11, 13, 39
0 unserviced
1 ad hoc basis (ie as requested only)
2 less frequently than every 6 weeks
3 less frequently than monthly and up to and including every 6 weeks
4 less frequently than fortnightly and up to and including monthly
5 less frequently than weekly and up to and including fortnightly
6 less frequently than daily and up to and including weekly
7 daily
8 more than once per day

Code set 4: Q9, 19
1 hospital ward
2 nursing home
3 client’s home
4 multipurpose centre
5 community health centre
6 rehabilitation setting
7 CRC
8 School
9 Other

Code set 5: Q24
1 adults only
2 mixed adults and paeds

Code set 6: Q28
1 a published clinical bedside assessment
2 your department’s/area’s own assessment protocol
3 neither

Code set 7: Q26-27
0 protocol doesn’t specify
1 24 hours
2 48 hours
3 72 hours
4 More than 72 hours
Code set 8: Q31-32

0 none
1 irregular or less frequent than yearly
2 yearly
3 between yearly and up to and including 6 monthly
4 between 6 monthly and up to and including 3 monthly
5 between 3 monthly and up to and including monthly

Code set 9: Q10

1 AI
2 AO
3 PI
4 PO

Code set 10: Q20

1 less than 50 beds
2 50-149 beds
3 150-249 beds
4 250-349 beds
5 350 beds or more

Code set 11: Q22, 26,35

1 yes
2 no

Code set 12: Q27

1 24 hours
2 48 hours
3 72 hours
4 Within one week
5 As soon as possible

Code set 13: Q36

1 from
2 to
3 within

Code set 14: Q38

1 formal
2 informal
APPENDIX C
DETAILED BIOGRAPHY OF PHASE TWO INFORMANTS

- **Julie: Service Type 1(a)**

  Julie was a newly graduated speech pathologist based in a community health centre in rural NSW. She was a previous student of the researcher. Julie was approached to be involved in the study following a conversation at a university function during which she showed interest in the topic and gave the researcher her contact details.

  Julie had taken up the position due to the location, as it was close to her family and friends. She reported that she preferred not to live in such a small town as the one in which she worked. Julie was in a sole position in a small town with a population of approximately 12,000 residents. The hospital on site had fewer than 20 acute beds. Her office was situated in the community health centre, which was on the same site as the hospital. Julie’s position also covered one other hospital on a needs basis, in a town to which she travelled weekly to see paediatric outpatients. That hospital was located 30 km (approximately 35 minutes’ drive) away. Julie did not have access to on-site videofluoroscopy, which was located approximately 56 minutes’ drive away.

  Julie had been in the position for around 6 months at the time of the interview. The position had a significant history of fluctuating staffing, both for speech pathology and allied health staff generally. There had been a gap of approximately 5-6 months between the last therapist resigning and Julie starting. This meant that at the time of interview, she was still trying to catch up with that. She reported massive waiting lists, but that she was currently trying to get it contained. These waiting lists were for paediatric clients, which formed the bulk of Julie’s caseload. Julie said that this was also her area of clinical interest.

  Julie reported that the need for adult services was variable. On the advice of a colleague, she had set aside two hours a day for acute services, which she used on request only.

  To the researcher’s knowledge, Julie was still working at this service at the time of writing.

- **Claire: Service Type 1(b)**

  Claire was recruited for this study following the previous clinician at her service participating in Phase One of the study. Phone and email contact were made with Claire, who agreed to participate. The interview was undertaken in Claire’s office at the community health centre.

  Claire had graduated from a metropolitan university 4 years earlier, and had originally moved to the country to gain experience. She had been in her current position 9 months at the time of interview, but before that had been the position for 16 months as a locum. Between these jobs she had taken a position at the nearest regional hospital, to gain experience and support working in a team. This position had also allowed her to pursue an adult-focused caseload. Her area of clinical interest was adult neurological.

  Claire was a currently in a sole position in a small town with a population of approximately 11,500. The hospital on site had fewer than 20 acute beds. Her office was located in the community health centre, which was situated on the same site as the hospital but in a different building. Claire’s position also covered three other hospitals.
on a needs basis. These were located 32 km (35 minutes), 70 km (1 hour 5 minutes) and 34 km (31 minutes) away, respectively.

Claire did not dedicate specific time to acute ward work within her timetable. Adult work entailed less than 0.2 full time equivalent, or approximately 8 hours a week. Her service did not have access to on-site videofluoroscopy facilities. The nearest service was approximately 1 hour 23 minutes’ drive away.

To the researcher’s knowledge, Claire was still working within this health service at the time of writing.

- **Cassie: Service Type 2**

Cassie became known to the researcher at a national conference, when the researcher was presenting data from Phase One of the study. Cassie introduced herself and offered to participate in the research following further discussion about the study.

Cassie took up her current position upon graduation from university. She had grown up in the town in which she was working, and was considered to be a “local”. Her family was well known within the town, and many of the hospital staff had known her since she was a young girl. This provided challenges in some of her relationships with other staff. The town had a population of approximately 2600 people.

Cassie was currently a sole clinician, but the service within which she was working had previously had more speech pathologists on site. Cassie’s clinical interests were in early intervention and health promotion, and she was keen to move into more of a managerial role at some stage. She was always mindful of ensuring that all clients received input. She did not have dedicated time for adult acute services, but saw them on a request basis. Cassie was responsible for servicing her base hospital and four other hospitals within the catchment, which she would also attend on a request basis. These hospitals were located 44 km (36 minutes), 40 km (33 minutes), 76 km (just over an hour) and 80 km (1 hour 10 minutes) drive away. All hospitals serviced were fewer than 20 acute beds in size. At the time of interview, Cassie did not have access to on-site videofluoroscopy service, but she said that the equipment was available and it was a management decision at this point not to use it. She was therefore working towards establishing a service. The nearest service was approximately 1 hour away.

Cassie was still working part time for this health service at the time of writing, and had also moved into a project officer position for the other portion of time.

- **Jane and Celia: Service Type 3**

Jane and Celia were interviewed together as they both had an interest in the project. Jane had participated in Phase One of the research, and offered to be involved in Phase Two. Jane and the researcher knew each other through previous professional activities, and had spoken about clients and services on previous occasions. Celia was not known to the researcher prior to the interview.

Jane had been in her current position for 10 years, and had built up the department from a sole clinician position to a staff of 3.8 FTE. Jane was passionate about supporting clinicians, especially new graduates. Her clinical interests were mainstream paediatrics, but she had always practised a mixed caseload. Celia had previously been employed in a similar position in another state, and had moved to the area purely for the job opportunity approximately a year earlier. Her interests were in adult rehabilitation. She had been employed specifically to develop the adult portion of the service, which Jane felt needed a lot of work.
The town had a population of approximately 12,000 people. The hospital consisted of 50 to 150 acute beds. Jane reported that the service did not provide outreach for any other hospitals. There was no videofluoroscopy service on site, and the nearest service was just over an hour away.

The researcher has kept in contact with Jane by email, and at last correspondence both Jane and Celia were still in their positions.

- **Kate: Service Type 4**

Kate was initially interviewed for Phase One of the research study and expressed interest in being involved in the second phase. A few months later, the researcher met Kate at a professional development event and they spoke further about the project. Kate expressed her interest and gave the researcher her contact details, which then led to her being involved.

Kate had moved to the 13,000 resident town approximately 4 years earlier. She had grown up in the city, but was keen to live in a non-metropolitan environment. Her husband relocated with her. She had previously worked in a specialist adult rehabilitation position in the city, as well as an adult position at another regional hospital. Her current position was mixed, in an effort to attract new staff by providing the caseload in which they were interested. When Kate had first come to the position it was a sole clinician job. She had overseen the amalgamation of several different services into the current form, which she felt allowed for more professional support. The department had just been granted an extra 0.5 FTE in funding, bringing its total to 2.9 FTE.

The service consisted of 50-150 acute beds, and was also responsible for outreach to two small hospitals with fewer than 10 acute beds each. These were located 19 km (24 minutes) and 34 km (37 minutes) drive away respectively. Adult acute service time was dedicated. There was access to on-site videofluoroscopy.

Kate had a strong interest in adult-related work. Her previous clinical experience in this area had allowed her a degree of specialisation. She had also undertaken a Masters by coursework degree in the area of adult dysphagia.

Kate was reportedly on extended leave at time of writing.

- **Sue: Service Type 5**

Sue was known to the researcher from when she was a student. The researcher supervised Sue for one of her clinical placements. They had kept in contact over time. When the researcher was investigating potential participants to be involved in the project, she realised that Sue had recently taken a position at one of the services that met the criteria. She contacted Sue and discussed the project and provided information. Sue was keen to participate, and arrangements were made.

Sue had a strong interest in adult neurological work. She had had a varied clinical history, having worked in the Northern Territory and New Zealand prior to starting at her current position. She also had background in the military, which she felt gave her a unique perspective on her role within the medical setting.

The town had a population of approximately 15,600. The service within which Sue worked consisted of 150-250 acute beds. She did not do any outreach work, apart from when the rehabilitation centre in the next town was not staffed. She was a sole clinician in a service that had had regular speech pathology presence for the past 4 years only. She had access to on-site videofluoroscopy.
During the process of writing these results, the researcher received a phone call from Sue. She had decided to leave the profession for an indefinite period and return to the military. Although she still reported a passion for the clinical work, she felt that the fight for credibility of the profession within the medical model made her job frustrating and did not allow her to practise in the way she envisioned.

- **Erin: Service Type 5**

  Erin was contacted following her service participating in Phase One of the study. Although she did not participate personally in Phase One, she discussed it with other team members and it was decided that she would represent the department. She had been in the position for approximately 9 years, and had worked in the acute wards over that time. She currently also did some paediatric work. The clinician who undertook the specialist adult caseload at that time was not available for interview, and had only been in the service for less than 12 months.

  Erin had a clinical interest in paediatrics, but had worked in a wide range of areas. Her new graduate position had been in the place where Julie (Service Type 1a) was currently practising.

  The town had a population of approximately 83,000 people. The hospital in which Erin worked had approximately 150-250 acute beds. Outreach to other services was not routine, as it was generally provided privately. Erin had at times undertaken some of this outreach work herself. She reported that the time dedicated to adult acute ward work was insufficient for the hospital bed numbers. 0.6 FTE was officially set aside for ward work, but 0.4 FTE had been “borrowed” from Community Health funding to meet the demand. However, even this was not sufficient. Speech pathology was reported to be well established and recognised within the service, and the recent addition of a stroke unit had assisted with the manner in which these clients were managed. The service was involved in a rural stroke pilot program. On-site videofluoroscopy was available, including a specialised chair. Erin was on extended leave at the time this report was written.
APPENDIX D

PHASE TWO INTERVIEW AIDE MEMOIRE

- **Tell me about the hospital and the dept**: (refer Phase 1)
  - Basic info re hospital, Check area serviced & demographics
  - Dept structure
- **Tell me about yourself as a SP**
  - Experience, why you came here
  - Caseload/role
  - Clinical interests
- **What kind of adult related work does your dept undertake?**
  - Has there been much change over the past 5-10 years in how adult caseloads are managed within your dept?
  - Can you tell me about the types and numbers of clients?
  - Do you have adult service time specifically set aside? Or is it based on need?
  - In phase 1, some clinicians mentioned that they felt there were some ‘untapped service areas’. Is this an issue for your dept?
- **Can you describe in detail what happens when your dept receives a dysphagia referral for a pt post CVA** (ie step through the process)
  - Policies, protocols, clinical pathways, how these may have come about
  - Are there any issues around the referral process? (e.g. timely, appropriateness, who refers)
  - Time issues? Balance with other commitments? (if an issue)
  - Types of assessment: are you happy with that? Does it work well?
  - VF access
  - Does this impact on your assessment/management? Does it change what you do?
  - What happens at different sites? Distance logistics?
- **What happens when referrals are necessary out of hours?**
  - Alternative models? Background to these and thoughts on them
  - What would you like to see happen? At what level (ie who to drive it?)
- **In an ideal world, how would you undertake dysphagia assessment and management?**
  - Differences with current practice? EBP/best practice
  - How do you feel about this?
  - What do you think about these differences?
  - How relevant do you think they are?
- **What do you see as being the role of SP in the assessment and management of dysphagia?**
  - Does this change in any way by the location where a clinician may practice (ie metro vs non)?
  - What are your views on other health professionals roles in dysphagia management? Do these change if a SP is not on-site?
  - How do you see your role within the team? Does this change for any of your outreach sites?
APPENDIX E
DEMOGRAPHIC INFORMATION FORM
FOR PHASE THREE (FOCUS GROUP)

Dysphagia Focus Group
Participant Background Information

Please note that all information provided on this form is to describe the focus group participants, and not to identify you or your workplace.

1) Workplace
   a) I am based in: (please circle)
      Non-metro NSW       Non-metro Victoria       Other:………………
   b) I am based in a: (please circle)
      Hospital            Community Health Centre    Other:………………
   c) My base hospital size is: (please circle)
      Less than 50 acute beds  50-100 acute beds  100-150 acute beds
      150-250 acute beds       Over 250 acute beds
   d) My department covers …….. number of hospital sites (including the base)
   e) The full-time equivalent of my department is: …………….
   f) Adult-related work in my department accounts for ……………… hours a week
      (Please note if this is an estimate)
   g) The hospital I am based at has videofluoroscopy onsite:    yes no     (please circle)

2) Myself
   a) I have ……………..years of experience as a Speech Pathologist
   b) My current caseload is: (please circle)
      Mixed adult/paediatric       Adult Other/details:………………………
   c) In terms of confidence in dysphagia assessment and management, please mark on the scale where you feel you are:

   1  2  3  4  5  6  7  8  9  10
   Not confident                                            Very confident

3) I am interested in participating in this focus group because:
   ………………………………………………………………………………………………………………………
   ………………………………………………………………………………………………………………………
   Thank you for your time, I look forward to your input in the focus group!
APPENDIX F
PHASE THREE FOCUS GROUP SLIDES

Dysphagia Management in Non-Metropolitan Areas

Focus Group
June 2007

Michelle Smith-Tammar
PhD Candidate
Charles Sturt University
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Overall Aims of the Study
• To document what is available and happening in non-metropolitan areas in terms of dysphagia assessment and management
• To consider the above in terms of future directions for the assessment & management of dysphagia in non-metro areas

Overview of Project
• Phase 1:
  – Telephone survey of public access speech pathology services
• Phase 2:
  – Semi-structured interviews with clinicians from a range of service types
• Phase 3:
  – Focus group with clinicians

Aim of today’s session
• To discuss the clinical practice of assessment of dysphagia following acute stroke, and potential areas for future consideration

  – To obtain feedback regarding the relevance of identified issues for the focus group
  – To obtain input into the future directions clinicians working in this area feel we should be heading

Outline of session
• Areas to be covered today include:
  – Assessment of dysphagia by a speech pathologist
  – Competency programs
  – Videofluoroscopy
  – Assessment in the absence of a speech pathologist
  – Our professional role
  – Your main issue regarding the assessment and management of dysphagia in non-metro areas

Assessment of Dysphagia: Findings
• 71% of sites surveyed had a written policy & procedure for the assessment of dysphagia

  • “In the process of writing one (laughs)...When I get the time...when its (dysphagia) not a huge part of my caseload either, its less of a priority.”

343
Assessment of Dysphagia: Discussion

- What are your thoughts on this comment?
- What role do you feel policy and procedure plays in terms of your day to day clinical practice?
- What practical suggestions do you have to assist in the development these kinds of resources?

Assessment of Dysphagia: Discussion

- Have you experienced breakdown in the assessment process?
- Have you used any strategies to manage:
  - Referral process
  - Prioritisation of cases/caseload
  - Communication of recommendations
- How do you feel these have impacted on your assessment/management?
- What do you identify as the most challenging component of this process for your service?

Videofluoroscopy: Findings

- 40.5% of sites surveyed had VF onsite

  "Well, according to Maggie Lee Huckabee, the only way to assess dysphagia is with videofluoroscopy, and that’s not reality....I mean, to have a rough guesstimate, out of 500 dysphagia clients maybe three of mine would get a video. You know, its that rare."

Videofluoroscopy: Discussion

- Given that videofluoroscopy is not available at every site, how do you see the literature in this area to relate to what clinician’s do on a daily basis?

Videofluoroscopy: Findings

- The main issues identified regarding the access of VF for acute patients were:
  - Availability: 54.8%
  - Equipment: 50.7%
  - Time: 30%
  - Travel/Distance: 28.8%
  - Expertise: 24.7%
  - Dr Approval: 20.5%
Videofluoroscopy: Discussion

- Do you have any comment on these issues and their relevance to your own situation?
- What implications do you think the above issues have on assessment of dysphagia?
- Do you have any ideas for how you would like to see VF utilised in non-metro areas?

Maintenance & Development of Skills: Findings

- Phases 1 & 2 raised the issue of competency programs/credentialing for dysphagia, both at a site level and at regional level.
- At this point, only a small number of sites are reported to have formal systems in place, with several more in the process of setting them up.

Maintenance & Development of Skills: Findings

- "We have a competency training program I suppose, people have to work through competencies which are an internal competency evaluation...Which is under review at the moment...And it's, it's a whole competency framework that we're actually reviewing the whole framework at the moment, so...It is (a really large job), and that's really why we have a huge team of people who are scheduled, so it's a rotation...."

Maintenance & Development of Skills: Findings

- "A lot of things that I feel I'm doing with dysphagia because I'm here on my own is the same as what I would've learnt at uni because I've got no-one else to compare my service delivery to."

Maintenance & Development of Skills: Findings

- "It (dysphagia) certainly is one of those areas that we don't feel 100% comfortable or confident with. You're not exposed to it constantly, and it's not the kind of thing you'd go off to a huge conference for because you don't encounter it all that much."

Maintenance & Development of Skills: Discussion

- Do these statements resonate with your experience?
- What is your view on this topic? Is it an issue?
- What role do you see competency programs taking?
- What do you see as the positives?
- What do you see as the negatives?
- Who do you feel should be driving these programs (e.g., at site, regional, state or national level?)
- What implications do you feel these programs have for non-metro clinicians?
Assessment in the absence of a Speech Pathologist: Findings

- 47% of sites reported having a written policy regarding management of patients in the absence of a speech pathologist
- 30% of sites reported utilising nurse screening programs
- A small number of sites reported utilising medical screening programs

Assessment in the absence of a Speech Pathologist: Findings

- "...there has sort of been pressure because of this obviously dysphagia screening is a bit of a buzz word around not only Victoria but you know, Australia wide..."

Assessment in the absence of a Speech Pathologist: Discussion

- What are your thoughts on this?

Assessment in the absence of a Speech Pathologist: Findings

- "...we basically haven't got the resources to even implement a dysphagia screening program because of development, the implementation, the training. We did survey our nurses and most of our nurses - nearly all of our nurses - said we don't have enough time for our own training let alone doing additional training."

Assessment in the absence of a Speech Pathologist: Findings

- "Yeah, they're happy to do it. I think it's a relief for them because, you know, they're the ones who have to deal with a patient all weekend going 'I want something to eat'.... So yeah, no, they're happy. And it's really straightforward; it's just tick the box, so they don't have to think too much, they can, you know, they can just do it."

Assessment in the absence of a Speech Pathologist: Discussion

- Considering these two comments:
  - What are your thoughts regarding implementation of nurse screening programs?
  - Have you had similar experiences?
Assessment in the absence of a Speech Pathologist: Findings

• Models of dysphagia management in absence of speech pathologist:
  - SP phone consult
  - Medical screener
  - Medical call (ad hoc)
  - Nursing screener
  - Ad hoc
  - NBM till SP

Assessment in the absence of SP: Discussion

• What are your thoughts regarding future directions for this area?
• Is this something that should be determined at site level, or higher?
• What issues (positive or negative) do you have with this?
• What considerations are required with using any of these systems? Is there one system that you prefer over the others? Why?

Stroke Guidelines

• "Patients should be screened for swallowing deficits before being given food or drink. Screening should be undertaken by personnel specifically trained in swallowing screening. Patients should be screened within 24 hours of admission. Patients who fail the swallowing screening should be referred to a speech pathologist for a comprehensive assessment."

  National Stroke Foundation Guideline – draft (2007)

The big question...

• What could we, as a profession, be doing in the area of dysphagia to promote and strengthen our role and ensure we are providing the best possible service to our clients?

And from your personal experience...

• What is your own major concern in terms of non-metro dysphagia practice?

Anything else you would like to raise?

• Comments??
• Other areas you wish to discuss?
APPENDIX G
EXAMPLE OF PRELIMINARY CODE LIST
OF ALL CODES FROM NVIVO
(PHASE TWO)

NODE LISTING

Nodes in Set: All Free Nodes
Created: 11/04/2007 - 2:25:58 PM
Number of Nodes: 25

1. Accountability
2. Being a local
3. Challenge of rural job
4. Challenging status quo
5. Changes in service
6. Cost shifting
7. Departmental history
8. Emotional challenge of adult caseload
9. Evidence based practice
10. Expectations of self
11. Following Recommendations
12. General resourcing
13. Generalist caseload
14. Ideal World
15. Juggling
16. Metro Perceptions of Rural
17. Nurse training.
18. Presence
19. Presence 2
20. Prioritisation
21. Relationships with other staff
22. Support
23. there's no one else-
24. Unmet need
25. Value Role
Context of non-metropolitan service delivery
- challenging the status quo (history and recruitment/retention)
- impact of previous personnel
- sporadic nature of acute services

What happens when the speech pathologist is present?
- Referral
  - Process
  - Source
  - Breakdown/facilitators
- Prioritisation/response to referrals
  - Method/strategy (breakdown/facilitator)
- Response time
  - Best practice achieved/not achieved
- Clinical bedside examination
  - Use of proformas > why/why not?
  - Use of adjuncts (CA and PO)
  - Role of previous experience in clinical assessment
    - Follow what I first learnt
    - Pick up from colleagues
  - Its not me, its them
  - Videofluoroscopy
    - Restrictions
      - Skills/experience
      - Medical approval
      - Travel/distance
      - Equipment
        - How is it used in practice
          - rationales
          - impact on practice
  - Communication of recommendations
    - Ad hoc/ambiguous
    - Explicit
- Management review/discharge

What happens when the speech pathologist is not present?
- Process of assessment in absence of SP
  - NBM
  - ad hoc med assessment
  - telephone consult
  - transfer to larger hospital
  - Weekend service
  - Screening tools
    - Nursing
    - Medical
- why/why not guidelines established

**Major overarching themes:**

1) *Equity (someone misses out)*
   - other clients missed out
   - unmet need missed out
   - the speech pathologist missed out
   - the patient with dysphagia missed out

2) *Making an impact in non-metro acute services*
   - proving your worth
   - having a presence
   - building relationships
   - education and knowledge
   - service type and its relationship to being part of team
   - what happens if there is breakdown in this area – compliance issues
APPENDIX H
PARTICIPANT INFORMATION FORMS FOR ALL
PHASES OF STUDY

Participant Information Sheet: Phase One
Availability and Accessibility of Speech Pathology Services

Thankyou for your interest in participating in this research. As discussed previously during our phone conversation, the aim of this research is to investigate the availability and accessibility of speech pathology services in rural New South Wales and Victoria, including location and types of services. More detailed information will also be obtained about dysphagia services for adults if applicable to your service. The aim of this research is to provide a picture of what services are available, where they are situated and some of the resources available to these services in the delivery of speech pathology care. This information is important for future advocacy in planning, distribution and resourcing of speech pathology as a profession.

This investigation will be undertaken as a telephone survey, which will be conducted by a member of the research team (listed below) at a time convenient to yourself. The interview will take approximately 40 minutes to complete. It will also be audiotape recorded for later transcription, as discussed.

During the interview, you have the right to decline to answer any question, to stop the tape recorder at any time, and to withdraw from the interview at any time without penalty.

Please not that your right to privacy will be retained. Audiotapes, transcripts, and identifying information will be stored securely, with access limited to those involved in the research. A report of the study may be submitted for publication, but individual responses and workplace information will not be identifiable. Names of towns, clinicians and services will not be used, whenever such information may identify participants, and results will be disseminated with privacy principles being paramount.

NOTE:
Charles Sturt University’s Ethics in Human Research Committee has approved this project. If you have any complaints or reservations about the ethical conduct of this project, you may contact the Committee through the Executive Officer:
   The Executive Officer
   Ethics in Human Research Committee
   The Grange
   Charles Sturt University
   Bathurst, NSW 2795
   Tel: (02) 6338 4628
   Fax: (02) 6338 4194

Any issues you raise will be treated in confidence and investigated fully and you will be informed of the outcome.

If you have any queries regarding this research, please contact one of the investigators on the numbers provided. Please keep a copy of this information sheet for your records. If you are happy with the above information and wish to participate, a consent form has been attached,
along with a reply paid envelope. Please return this as soon as possible, and I will contact you to make an appointment time.

Michelle Smith  
Ph.D. student, Charles Sturt University  
21 Ryeland Drive,  
Shepparton, 3630  
041 301 58 39  
[michelle.smith@gvh.humehealth.org.au](mailto:michelle.smith@gvh.humehealth.org.au)

<table>
<thead>
<tr>
<th>Dr Linda Wilson</th>
<th>Associate Professor Lindy McAllister</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supervisor,</td>
<td>Supervisor,</td>
</tr>
<tr>
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<td>School of Community Health</td>
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<tr>
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<td>Charles Sturt University</td>
</tr>
<tr>
<td>PO Box 789</td>
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<tr>
<td><a href="mailto:liwilson@csu.edu.au">liwilson@csu.edu.au</a></td>
<td><a href="mailto:lmcallister@csu.edu.au">lmcallister@csu.edu.au</a></td>
</tr>
</tbody>
</table>
The implementation of best practice in dysphagia assessment following acute stroke: an investigation of clinical practice in New South Wales and Victoria

Thank you for your interest in participating in this research. As discussed previously during our phone conversation, the aim of this research is to investigate the clinical practice of assessment of dysphagia (swallowing disorders) in acute stroke. This will be undertaken as an interview, which will be conducted by myself either in your workplace or in a location of your choice.

The management of dysphagia (swallowing disorders) following acute stroke forms a significant proportion of the speech pathologist’s adult caseload. Knowledge of speech pathology services and clinical practice issues is limited. A recent study focusing on paediatric speech pathology services has highlighted inequity issues in rural New South Wales (Wilson, Lincoln & Onslow, 2002), but to date no data exist on service provision to adult acute speech pathology patients. The overall purpose of this investigation is to gather information regarding speech pathology assessment of dysphagia in the acute stroke phase, and potential differences that may exist in practice patterns based on location of service in the states of New South Wales and Victoria. It is anticipated that this process will provide insight into issues surrounding the implementation of best practice in a range of clinical settings, and factors that may support or inhibit this from occurring. Highlighting these issues is of importance for ensuring quality of care to patients with dysphagia, and the equity of access to this care.

The interview will take approximately one and a half to two hours to complete. It will also be audiotape recorded for later transcription, as discussed. After the interview is complete and I have undertaken the transcription, I may contact you by phone to clarify any issues that arise within the interview. This clarification will be undertaken at a time convenient to yourself. After the transcription process is finished, a written copy of your interview will be sent to you to allow right of reply and in turn strengthen the validity of the research.

During the interview, you have the right to decline to answer any question, to stop the tape recorder at any time, and to withdraw from the interview at any time without fear of penalty or discrimination.

Please note that your right to privacy will be retained. Audiotapes, transcripts, and identifying information will be stored securely, with access limited to those involved in the research (i.e. myself and my supervisors). A report of the study may be submitted for publication, but individual responses and workplace information will not be identifiable. As a practising speech pathologist, I am aware of the small size of our profession and subsequently understand that confidentiality is of paramount importance in a study of this nature. Consequently, all efforts will be made to ensure that this is not breached in any way.

NOTE:
Charles Sturt University’s Ethics in Human Research Committee has approved this project. If you have any complaints or reservations about the ethical conduct of this project, you may contact the Committee through the Executive Officer:

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Ethics in Human Research Committee
The Grange
Charles Sturt University
Bathurst, NSW 2795
Tel: (02) 6338 4628
Fax: (02) 6338 4194

Any issues you raise will be treated in confidence and investigated fully and you will be informed of the outcome.
If you have any queries regarding this research, please contact one of the investigators on the numbers provided. Please keep a copy of this information sheet for your records. If you are happy with the above information and wish to participate, a consent form has been attached, along with a reply paid envelope. Please return this as soon as possible, and I will contact you to make an appointment time.

Michelle Smith  
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Participant Information Sheet: Phase Three Focus Group

Speech pathology assessment of dysphagia following acute stroke: an investigation of non-metropolitan clinical practice in New South Wales and Victoria

Thank you for your interest in participating in this research. As outlined in the February 2007 edition of Speak Out, the aim of this current group is to discuss the clinical practice of assessment of dysphagia following acute stroke, and potential areas for future consideration. This will be undertaken as a focus group, which will be conducted by Michelle Smith-Tamaray (PhD student & principal investigator) at the Speech Pathology Australia National Conference, Sydney, May, 2007. This focus group forms the final phase of a larger project, investigating the assessment of dysphagia following stroke in non-metropolitan New South Wales and Victoria.

Research undertaken to date has found that there are some themes related to non-metropolitan practice of dysphagia. During the focus group, selected themes will be presented by the facilitator, and then opened for discussion amongst the group. This will be your opportunity to then provide your opinion and feedback on the research undertaken thus far, and comment on its applicability to your current position. It is also your opportunity to raise any issues or ideas for future directions in this area of practice. You may also decline from participating in any discussion of specific topics without penalty or discrimination.

Prior to the focus group, you will be asked to fill out a brief form outlining some basic demographic information. This will be used by the principal investigator to describe the group’s participants, and will not be used to identify you or your workplace by name. The focus group will take approximately one to two hours to complete. It will also be audiotape recorded for later transcription. During the group, you have the right to decline to answer any question, to stop the tape recorder at any time, and to withdraw from the group at any time without fear of penalty or discrimination.

Please note that your right to privacy will be retained. Audiotapes, transcripts, and any identifying information will be stored securely, with access limited to those involved in the research (i.e. myself and my supervisors). A report of the study may be submitted for publication, but individual responses and workplace information will not be identifiable.
Pseudonyms will be adopted for all participants and any workplaces that are discussed. As a practising speech pathologist, I am aware of the small size of our profession and subsequently understand that confidentiality is of paramount importance in a study of this nature. Consequently, all efforts will be made to ensure that this is not breached in any way. Due to the nature of a focus group, however, the groups participants will be known to those present, therefore complete anonymity within this environment is difficult to ensure. Prior to commencement of the group, participants will be reminded to not identify their fellow group members by name or workplace outside the focus group.

NOTE:
Charles Sturt University’s Ethics in Human Research Committee has approved this project. If you have any complaints or reservations about the ethical conduct of this project, you may contact the Committee through the Executive Officer:

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The Grange
Charles Sturt University
Bathurst, NSW 2795
Tel: (02) 6338 4628  Fax: (02) 6338 4194

Any issues you raise will be treated in confidence and investigated fully and you will be informed of the outcome.

If you have any queries regarding this research, please contact one of the investigators on the numbers/emails provided. Please keep a copy of this information sheet for your records. If you are happy with the above information and wish to participate, a consent form has been attached, along with a reply paid envelope. Please return this to the facilitator by mail, to enable confirmation of numbers and assist in planning. Thank you for your time and consideration.

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APPENDIX I
DESCRIPTIVE DATA FOR PHASE 1 TELEPHONE SURVEYS

Appendix I(a)
Summary of data for all service types: average(mode)\(^a\)

<table>
<thead>
<tr>
<th>Service Type</th>
<th>Total dept FTE</th>
<th>Adult FTE</th>
<th>Dysphagia FTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type 1</td>
<td>1.34 (1.0)</td>
<td>0.09 (0.1)</td>
<td>0.07 (neg.(^b))</td>
</tr>
<tr>
<td>Type 2</td>
<td>1.80 (1.0)</td>
<td>0.43 (0.5)</td>
<td>0.22 (n/a)</td>
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<td>Type 3</td>
<td>1.89 (1.0)</td>
<td>0.45 (0.2)</td>
<td>0.31 (0.2)</td>
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<tr>
<td>Type 4</td>
<td>2.67 (n/a)</td>
<td>0.98 (0.6)</td>
<td>0.45 (0.6)</td>
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<tr>
<td>Type 5(^a)</td>
<td>3.71 (4.4)</td>
<td>2.31 (2.0)</td>
<td>1.15 (0.5)</td>
</tr>
</tbody>
</table>

\(^a\) Note: mode was unable to be calculated for Service Type 2 and 4 due to no recurring values in these small data sets

\(^b\) Negligible = equal to or less than 0.025

Appendix I(b)
Frequency data for number of acute beds serviced by site type

<table>
<thead>
<tr>
<th>Service Type</th>
<th>&lt;50 beds</th>
<th>50-149 beds</th>
<th>150-249 beds</th>
<th>250-349 beds</th>
<th>&gt;350 beds</th>
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</tr>
<tr>
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<td>4</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>1</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Type 4</td>
<td>2</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Type 5(^a)</td>
<td>0</td>
<td>6</td>
<td>9</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

\(^a\) Note: Type 5 contained 1 missing data point