A clinical improvement program (CIP) to improve paramedic Key Performance Indicator results

This Clinical Improvement Program study was undertaken within the Ambulance Service of New South Wales (Ambulance), Australia – one of the world’s largest ambulance services.

Compiled by Phillip Ebbs, Mark Gibbs and Jenny Potter - Clinical Support Managers, Ambulance.

Introduction

This study aimed to determine whether a Clinical Improvement Program (CIP) was effective at improving paramedic performance against clinical key performance indicator (KPI) benchmarks. The Ambulance Service of NSW established clinical KPIs in 2004 to measure the quality and safety of paramedic care. However, the organisation had struggled to significantly improve KPI performance since that time (Figure 1).

Intervention

A Clinical Improvement Program using Awareness, Education and Engagement strategies was implemented in order to improve paramedic KPI results.

> Awareness strategies: A4 size Clinical Safety Charts (in colour), which display the latest paramedic KPI results, were distributed to each ambulance station within the Northern Division on a monthly basis. (Figures 1 and 2) The charts have the effect of making paramedics aware of what is expected of their clinical performance, as well as highlighting areas requiring improvement.

> Education strategies: paramedics were provided with information about the rationale underpinning clinical KPIs through education sessions, staff meetings and in-service days. Reading material was also distributed to each ambulance station in the form of a Clinical KPI Rationale Booklet.

> Engagement strategies: Senior managers and clinical leaders actively participated in discussion and feedback with paramedics about the CIP by fielding email correspondence, visiting ambulance stations and by acknowledging high achieving ambulance stations through letters of encouragement.

Methods

The Clinical Improvement Program was implemented in April, 2009. Four months of Pre-test KPI data were collated prior to the intervention (Dec 2008 – Mar 2009), and four months of Post-test data were also collated after implementation of the program (April – July 2009).

A rigorous, retrospective, quantitative methodology compared pre-test and post-test data across the intervention and non-intervention areas using a series of four statistical tests. (The largest data set used within this study related to over 200,000 emergency patient contacts during the study period).

Results

The study proved the effectiveness of these improvement strategies. The Clinical Safety Chart CIP was associated with a statistically significant improvement in paramedic KPI results. Post-test paramedic KPI results were 6.36% (95% CI 0.0135 to 0.1074, p=0.0124) and 6.84% (95% CI 0.0306 to 0.1072, p=0.0005) higher in the intervention area when compared to pre-test results in the intervention area and post-test results in the non-intervention area, respectively (Table 1).

The full study was also published as a short report in the Emergency Medicine Journal1. Using this program, Clinical Safety Charts and other strategies have ensured that the Ambulance now meets all, or almost all, of its clinical Key Performance Indicator requirements which are set by the Ministry of Health.

Discussion

> Clinical Improvement is achievable.

Simple strategies can be highly effective.

> The engagement of clinicians is essential when seeking to effectively improve performance.

Table 1: Statistical Test Results

<table>
<thead>
<tr>
<th>Test 1</th>
<th>Test 2</th>
<th>Test 3</th>
<th>Test 4</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>p value</td>
<td>95% CI</td>
<td>p value</td>
<td>95% CI</td>
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<td>0.0999</td>
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</tbody>
</table>


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