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Abstract: This study examines the prevalence and characteristics of homelessness episodes in Australian substance misuse treatment. A dataset containing all closed substance treatment episodes in NSW, Australia from July 2006 to June 2011 was used. Statistical analysis was used to determine any relationships between demographic and treatment variables and homelessness. Of the 213, 129 treatment episodes in the dataset 12.8% have some form of homelessness. Non-government and residential services have the h ...

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The Prevalence and Characteristics of Homelessness in the NSW Substance Treatment Population: Implications for Practice

Introduction

Substance misuse is both a cause and a complication of homelessness. Substance problems have been identified as a barrier to accessing homelessness support and housing services. Addressing homelessness has been a focus of Australian governments in recent years including cross-sectoral initiatives to reduce homelessness rates. This study examines the prevalence of homelessness and relationship to drug use in substance misuse treatment episodes over a five year period.

Method

A dataset containing all closed substance treatment episodes in NSW, Australia from July 2006 to June 2011 was used. Variables, in particular homelessness, were extracted from the dataset. Then statistical analysis was used to determine any relationships with demographic and treatment variables including treatment type, age, sex, Indigenous status, principal drug of concern and reason for treatment cessation.

Results

Of the 213129 treatment episodes in the dataset 12.8% have some form of homelessness exceeding the incidence in the general population. Homelessness is found more frequently

in residential treatment settings and in non-government agencies. Sex, principal drug of concern, reason for cessation and age have weaker relationships with homelessness.

Discussion

Referral from and advocacy by treatment providers to facilitate entry into secure housing is an important strategy that would add value to treatment for substance misuse. Policy directives and more homelessness services have not reduced the incidence of homelessness in the Australian substance treatment population over the past 5 years. The way policy is interpreted and operationalised is a critical factor in turning policy intent into reality. The practice of specialist homelessness services in dismantling barriers to housing for substance users requires investigation.

Has Australian policy on homelessness made a difference? A story from substance treatment statistics

Introduction

Addressing homelessness has been a focus of Australian governments in recent years. Federal and state agreements including the National Partnership on Homelessness have increased the number and availability of specialist homelessness services across the country in an effort to reduce homelessness and provide long term secure accommodation for people who are homeless (Homelessness Taskforce 2008). The government initiatives recognise a number of causes and risk factors of homelessness including shortages of affordable housing, domestic violence, unemployment and substance misuse.

Addressing homelessness in Australia has been largely the responsibility of the specialist homelessness service system – refuges, supported accommodation and social housing schemes are some of the housing options provided by the not-for-profit sector (NFP). However, integrated service delivery, a coordinated crisis response and support with daily health and welfare needs have been identified as necessary to get people out of homelessness or prevent them becoming homeless in the first place (Homelessness Taskforce 2008).

Substance misuse is frequently identified as a risk factor for homelessness and substance misuse problems are widespread in the homeless population (Teesson, Hodder & Buhrich 2003). Estimates of how many homeless people have substance problems vary and are dependent on the location of the study and the group investigated. For example, 58% of homeless women have been found to be substance dependant and up to 82% of homeless young people (Strehlau, Torchella, Kathy, Scheutz & Krausz, 2012; Kamieniecki, 2001). Kertesz, Crouch, Milby et al (2009) found that severe addiction reduced tenancy rates. Although there is some debate about whether substance misuse is a cause or a consequence of homelessness (Johnson & Chamberlain 2008). However, regardless of where and when a substance problem started it is a barrier for accessing homelessness services (Black & Gronda, 2011). For example, having an addiction or recent history of substance misuse or being affected by substances excluded homeless people from many homelessness support services (Burt et al, 2010).

Australian substance treatment services are provided primarily by government funded public health care and NFPs which are typically called non-government services. A small number of services are provided by the private health care sector for those with private health insurance or ability to pay. The Australian government position paper suggests that ways need to be found to include substance users in housing and homelessness service delivery and that the broader service delivery system needs to be account able for this goal. For example a specific homelessness prevention strategy states;

No exits into homelessness' from statutory, custodial care, health, mental health and drug and alcohol services (Homelessness Taskforce 2008).

While the way substance misuse both causes and complicates homelessness is well described, fewer studies have investigated the way homelessness impacts on access to and progress in substance misuse treatment.

Method

The goal of the study was to explore the incidence of homelessness in the drug and alcohol treatment population and determine relationships with demographic and treatment variables. In brief, a dataset containing all closed treatment episodes in NSW, Australia from July 2006 to June 2011 was used. Variables, in particular homelessness, were extracted from the dataset. Then statistical analysis was used to determine any relationships.

Dataset

The Australian Alcohol and Other Drug Treatment Services National Minimum Data Set (AODTS–NMDS) measures supply of publicly funded drug and alcohol treatment. It includes both government and non-government (NFP) treatment providers. AODTS-NMDS data collection is managed by state and territory health authorities (Australian Institute of Health and Welfare (AIHW) 2007). Significant advantages of using this dataset in analysis include a high quality data collection instrument, monitored collection processes encouraging a high response rate and large sample sizes (Thomas, 2005). Treatment types recorded include one or more types of intervention such as medicated withdrawal, assessment, counselling, rehabilitation, case management and education or information.

The AODTS-NMDS for 2006/07 to 2010/11 for NSW was obtained from NSW Health. Permission was granted by NSW Health to analyse the data. Furthermore, ethical approval

was granted by Charles Sturt University's Human Research Ethics Committee (protocol number 2013/016). The dataset contains all closed treatment episodes in NSW from July 2006 to June 2011 in publically funded drug and alcohol treatment providers. The data was cleaned (identities of both individuals and agencies were removed) prior to NSW Health supplying the data.

Variables

The AODTS-NMDS contains many variables that are collected at each agency. The variables used in this study are demographic (gender, age, indigenous status, living arrangements) and treatment related (main treatment, principal drug of concern, financial year, reason for cessation and agency type [government or non-government]). For some of these variables there are many fields which occur rarely and were therefore combined or moved to an 'other' category. Homelessness status was determined from the living arrangements category. The definition of homelessness used in this paper follows the definition used in Chamberlain et al 2008 (see [Table 1](#) ~~Table 1~~).

Homelessness category	Usual living arrangement recorded in treatment episode
Primary homelessness	'no usual residence/homeless'
Secondary homelessness	'Psychiatric hospital', 'Alcohol/other drug treatment residence', 'Shelter/refuge' or 'Prison/detention centre'
Tertiary homelessness	No security of tenure or lease - 'Boarding house', 'Hostel/supported accommodation services' or 'Caravan on a serviced site'
Not homeless	privately owned or rented houses and flats

Table 1: homelessness types represented in the AODTS-MDS

Statistical Analysis

Since the dataset is a population of all treatment episodes, tests of significance and p-values are not appropriate. Nevertheless, the size of the effect is still important and so statistical analysis was performed using the statistic package R in two stages (R Core Team 2012). The first stage used logistic regression to determine the effect each variable had on homelessness in the presence of the other variables. The second stage uses descriptive statistics to describe the effects. The descriptive statistics were summarized using tables of counts and percentages and spineplots.

Multiple logistic regression was used to determine the effects on homelessness from the other variables (Greene & William 1993). Several variables have an unknown/not stated option. These are naturally correlated. Thus to remove bias from these, all data that had unknown or 'not stated' for a variable concerning the person was omitted from the logistic regression. Unknown fields related for variables concerning the agency were not removed (reason for cessation is the only applicable case), because this information is not collected at the same time as the person information. Logistic regression assumes that none of the variables are highly correlated and the independence of irrelevant alternatives. Both assumptions were tenable here.

Effect size was given by Nagelkerke's pseudo R^2 (Hu, Shao & Palta, 2006). Pseudo R^2 values tend to be small. Also, their magnitude is dependent on the response probability. For example a moderate effect for a response probability similar to the homelessness data should have a pseudo- R^2 value of around 0.05.

The strength of each variable was determined in two ways. Firstly, the pseudo R² of the logistic model was determined for each variable by itself. This pseudo R² measures the impact a variable has ignoring the other variables. Secondly, the pseudo R² of the logistic model was determined for all variables except the one of interest. The difference in pseudo R² from these models to the full model (with all variables included) measures the impact a variable has in the presence of all the other variables.

Results

Homelessness

The percent of each homelessness type can be seen in the second row of [Table 2](#). In the 2001 and 2006 censuses, 0.4% of the NSW population had some form of homelessness (Chamberlain & MacKenzie, 2008). Of the 213129 treatment episodes, 4.3% have primary homelessness and 12.8% have some form of homelessness, both well exceeding the incidence in the general population.

	Primary	Secondary	Tertiary	Not Homeless	Unknown	Total	
Overall	9194 (4.3%)	9262 (4.3%)	8669 (4.1%)	175717 (82.4%)	10287 (4.8%)	213129	
Main Treatment	Assessment only	1552 (4.0%)	3635 (9.3%)	1417 (3.6%)	30977 (79.3%)	1495 (3.8%)	39076
	Counselling	684 (1.2%)	1055 (1.8%)	1912 (3.3%)	51827 (88.7%)	2924 (5.0%)	58402
	In. Consult	1245 (5.2%)	264 (1.1%)	835 (3.5%)	19880 (83.7%)	1536 (6.5%)	23760
	In. Detox	3831 (13.1%)	1596 (5.5%)	1420 (4.9%)	21157 (72.3%)	1241 (4.2%)	29245
	Other	153 (2.6%)	204 (3.4%)	219 (3.7%)	4679 (78.4%)	715 (12.0%)	5970
	Out. Consult	121 (1.8%)	141 (2.1%)	206 (3.1%)	5995 (89.4%)	240 (3.6%)	6703
	Out. Detox	123 (1.5%)	128 (1.6%)	248 (3.0%)	7391 (89.6%)	359 (4.4%)	8249
	Pharmacotherapy	239 (1.7%)	651 (4.8%)	996 (7.3%)	10870 (79.6%)	906 (6.6%)	13662
	Res. Rehab	531 (5.1%)	896 (8.5%)	467 (4.4%)	8268 (78.7%)	348 (3.3%)	10510
Support only	715 (4.1%)	692 (3.9%)	949 (5.4%)	14673 (83.6%)	523 (3.0%)	17552	

Agency	Govt	5091 (3.1%)	4462 (2.7%)	6515 (3.9%)	140737 (85.1%)	8535 (5.2%)	165340
Type	Non-Govt	4103 (8.6%)	4800 (10.0%)	2154 (4.5%)	34980 (73.2%)	1752 (3.7%)	47789
Principal Drug of Concern	Amphetamines	1071 (5.6%)	1558 (8.1%)	762 (4.0%)	15036 (78.3%)	773 (4.0%)	19200
	Cannabis	856 (2.4%)	1234 (3.5%)	1138 (3.2%)	30975 (87.0%)	1401 (3.9%)	35604
	Ethanol	5018 (5.1%)	3454 (3.5%)	3982 (4.1%)	80788 (82.7%)	4502 (4.6%)	97744
	Heroin	1320 (4.6%)	1955 (6.8%)	1607 (5.6%)	22488 (78.2%)	1373 (4.8%)	28743
	Methadone	153 (3.0%)	222 (4.4%)	254 (5.0%)	4225 (83.2%)	222 (4.4%)	5076
	Unknown	149 (2.3%)	98 (1.5%)	165 (2.5%)	5308 (81.4%)	804 (12.3%)	6524
	Other	585 (2.9%)	723 (3.6%)	744 (3.7%)	16615 (83.7%)	1174 (5.9%)	19841
Reason for Cessation	Completed	5920 (4.3%)	6415 (4.7%)	5131 (3.7%)	114194 (82.8%)	6181 (4.5%)	137841
	Left (non-compliance)	253 (4.9%)	291 (5.6%)	234 (4.5%)	4146 (79.6%)	282 (5.4%)	5206
	Left against advice	1080 (10.4%)	477 (4.6%)	459 (4.4%)	7984 (76.7%)	416 (4.0%)	10416
	Left without notice	809 (2.7%)	824 (2.8%)	1207 (4.0%)	25366 (84.7%)	1731 (5.8%)	29937
	Other	390 (3.2%)	630 (5.2%)	746 (6.1%)	9616 (79.1%)	770 (6.3%)	12152
	Transferred	691 (4.2%)	604 (3.7%)	835 (5.1%)	13563 (82.8%)	694 (4.2%)	16387
	Unknown	51 (4.3%)	21 (1.8%)	57 (4.8%)	848 (71.3%)	213 (17.9%)	1190

Table 2: The number of treatment episodes from 2006/07 to 2010/11 in each of the different homeless categories. The table also includes the breakdown by some of the key variables in this study. Percentages indicate the proportion of that row. Cells that are bolded are discussed in the text.

Overall comparison (multiple logistic regression)

The strengths of the different logistic regression models can be seen in [Table 3](#). The most informative column is the last which measures the strength of the relationship of that variable to homelessness in the presence of the other variables. The “Only” column is also useful, since it measures the strength of the relationship of each variable irrespective of the other variables.

From the table the main treatment and agency type have a moderate sized relationship with homelessness. Sex, principal drug of concern, reason for cessation and age have weaker relationships with homelessness. Year and Indigenous status have almost no link to homelessness; a link which would not be detectable for a smaller sample.

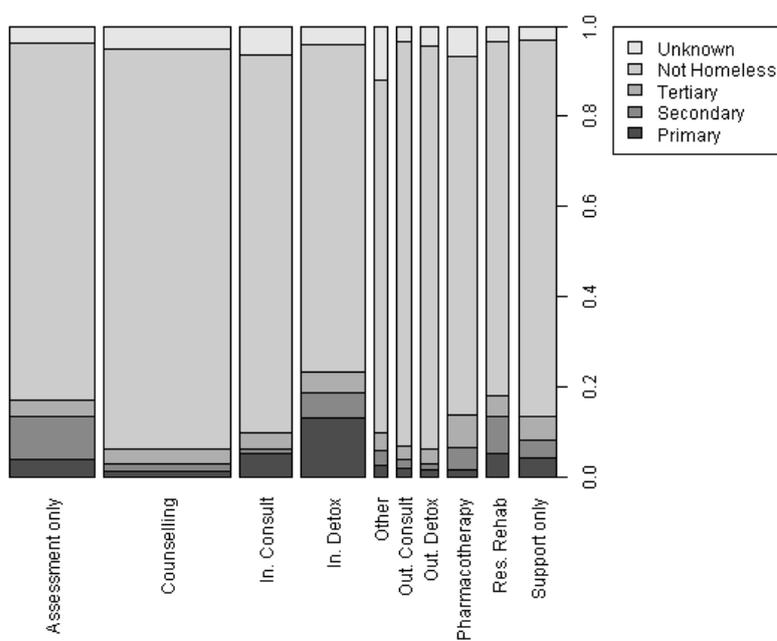
Variable	pseudo R ²		
	Only	All but	Diff to full
Main Treatment	0.0551	0.0573	0.0307
Agency Type	0.0325	0.0730	0.0150
Sex	0.0075	0.0822	0.0058
Principal Drug of Concern	0.0112	0.0836	0.0044
Reason for Cessation	0.0071	0.0862	0.0018
Age	0.0047	0.0863	0.0017
Year	0.0012	0.0871	0.0008
Indigenous Status	0.0015	0.0875	0.0005

Table 3: Nagelkerke’s pseudo R² for the different logistic models with Homelessness as the dependent variable. The “Only” column shows the effect size of that variable alone. The “All but” column shows the effect size of using all but that variable. The last column, “diff to full” is the difference between the “All but” column and the R² for the full model (0.0880). This last column reflects the size of the effect of that variable when taking all other variables in consideration. Moderate effect sizes in this context will have pseudo R² values in the “only” column about 0.05.

Main Treatment

The biggest differences in the levels of homelessness are seen across the different main treatments (see [Table 2Table-2](#) and Figure 1). Inpatient services had a high level of primary homelessness. In particular, inpatient detoxification had the highest level of primary homelessness (and all forms put together). Residential rehabilitation also had high levels of homelessness (all forms). Assessment only had a higher level of secondary homelessness. Counseling had the lowest levels of homelessness of the more common treatment types.

Figure 1: Proportions of homelessness by main treatment. Equal areas correspond to equal counts.

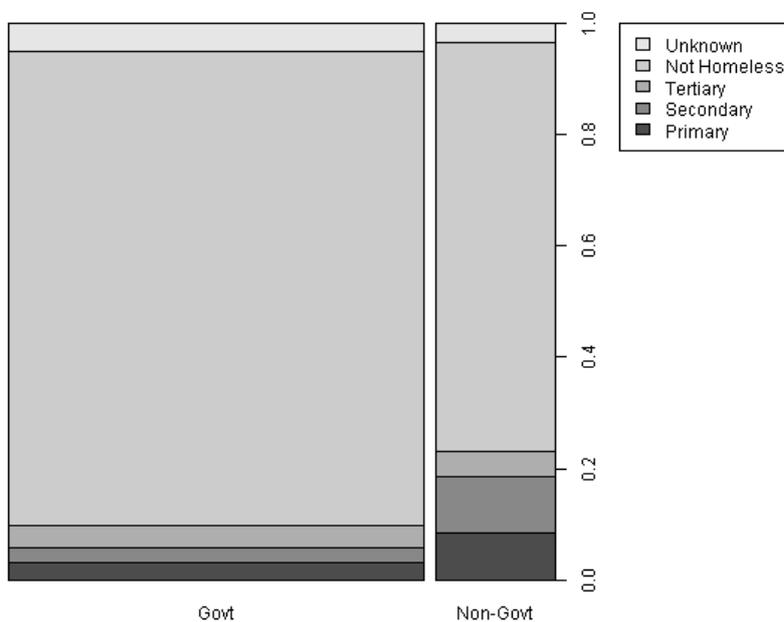


Agency Type

Government agencies provided the majority of the treatment episodes (see [Table 2Table-2](#) and Figure 2). Thus by number, government agencies had more treatment episodes with

homeless clients. However, when looking at proportions, the non-government sector (NFPs) had a much higher incidence of homelessness, especially primary and secondary homelessness.

Figure 2: Proportions of homelessness by agency type. Equal areas correspond to equal counts.



Sex

Males had a higher incidence of homelessness than females within the treatment episodes.

The same is true in the general population overall, but does vary for different age groups.

The last two columns of [Table 4](#) compare the relative risk for males vs. females to be homeless between the general population and the treatment episodes. The table shows that the bias towards males to being homeless is about the same in the treatment episodes

and the general population for ages 19-34. However, age groups 45-54 years and 55-64 years represented in the treatment episode have a higher risk of males with homelessness than the general population.

Age	% Homeless		Relative Risk:	Relative Risk: Males vs.	
	General Population	Episodes	Episodes vs. General	General Population	Episodes
12-18	1.08	17.22	15.9	0.81	1.05
19-24	0.54	11.21	20.7	1.06	1.05
25-34	0.50	12.45	24.7	1.30	1.33
35-44	0.43	13.77	31.9	1.73	1.97
45-54	0.42	13.13	31.5	1.81	2.57
55-64	0.42	10.95	25.9	1.58	3.30
>= 65	0.25	7.46	29.7	2.12	1.55

Table 4: Homeless rates and relative risks of being homeless for different age brackets.

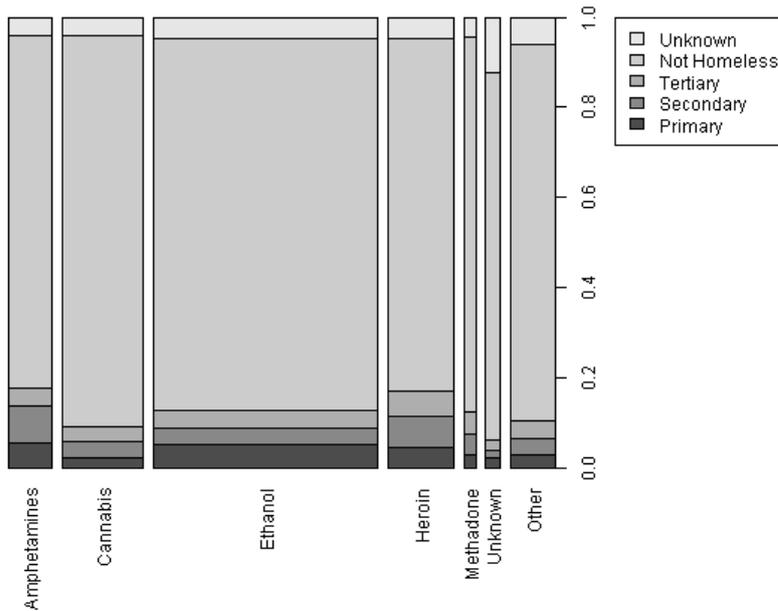
The fourth column contains the relative risks of a treatment episode client being homeless compared to a person from the general population. The last two columns contain the relative risks of a male being homeless compared to a female. The figures for the general population use the homeless counts and the sex ratios for the homeless population from (Chamberlain et al, 2008) and the age distribution and the sex ratios for all of Australia generated from (Australian Bureau of Statistics, 2010). The figures for all episodes are generated from the AODTS-NMDS. Note the 50 episodes with unknown age as well as the

98 episodes with ages less than 12 (<0.1% together) have been removed from these tables since they are too small to make any conclusions from.

Principal Drug of Concern

See [Table 2](#) and Figure 3 for the different levels of homelessness for the different principal drugs of concern. Of the five most common drugs, treatment episodes principally for cannabis had a noticeably lower level of homelessness. It was checked to see if this was caused by an interaction with treatment type, and the effect was still present – it is not an interaction effect. A smaller effect is that Heroin and amphetamine users had slightly higher levels of secondary homelessness.

Figure 3 : Proportions of homelessness by principal drug of concern. Equal areas correspond to equal counts.

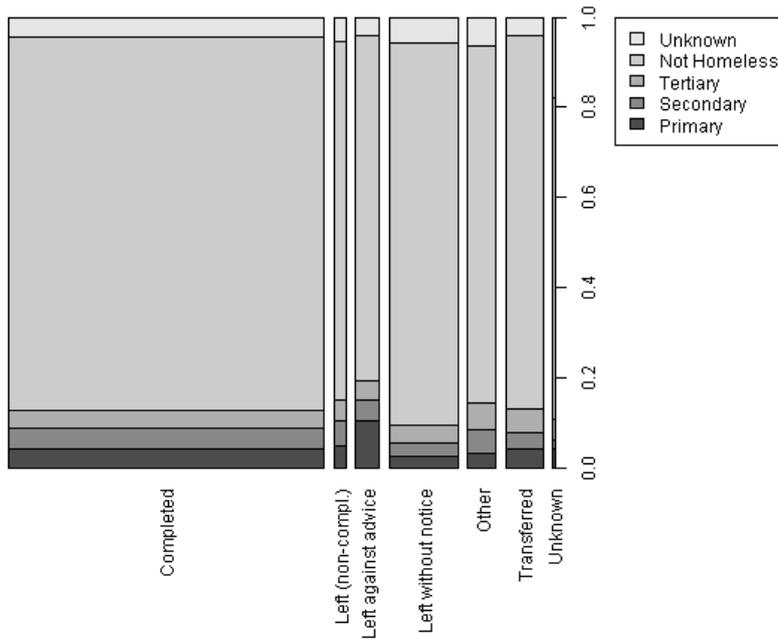


Reason for Cessation

There were similar levels of homelessness in treatments where clients completed as expected (“completed”) or were transferred to another treatment (“transferred”) (see [Table 2](#) and Figure 4). However there were differences between treatments that ended unsatisfactorily or unexpectedly. Homeless people (all forms) were less likely to leave without notice. However, for those episodes that ended in the client leaving against advice there were a lot more primary homeless people (10.4% compared to 4.3% for all episodes together). Episodes where the client left involuntarily had a higher number of homeless people, but to a lesser effect.

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Figure 4: Proportions of homelessness by reason for cessation. Equal areas correspond to equal counts.



Age

In the general population, the rate of homelessness drops with age (for people at least 12) (Chamberlain & MacKenzie, 2008). The second and third columns of [Table 4](#) show a comparison of the homelessness between the general population and the treatment episodes. The ratio of these two is the relative risk (fourth column) and provides a useful comparison because of the much higher occurrence of homelessness in the treatment episodes. The difference to the general population is most pronounced for the 35-54 age bracket and least pronounced for the 12-24 age bracket.

Year

There was little change in the homeless rate over the five years of the data. This is consistent with Chamberlain et al 2008 who found the homelessness rate in the general population had stayed almost constant in the five years preceding the AODTS-NMDS, from 2001 to 2006.

Indigenous Status

There was little difference in the incidence of homelessness between Indigenous and non-Indigenous treatment episodes with Indigenous treatment episodes 1.20 times more likely to be homeless than non-Indigenous. This was in big contrast to Chamberlain et al, 2008 where Indigenous people were 4.07 times more likely to be homeless than non-Indigenous people.

Discussion

The key findings of the study are that a substantial proportion (12.8%) of substance treatment episodes are provided to people who experience some form of homelessness and that treatment is most frequently provided in the non-government sector. Given the large proportion of homeless people who are identified as having substance problems; this result could be expected (e.g. Kertesz et al 2009). However, the context of treatment where homelessness is most frequently found is important. Homelessness is more likely in residential treatment settings and homeless people are more likely than people with secure housing to leave treatment against the advice of the treatment provider. It has been noted that homeless substance users are more difficult to engage in treatment (Fisk, Rakfeldt, McCormack, 2006). However, from this study it appears that homeless people are additionally more difficult to retain in treatment even when they access it. What is not known is which factors influence this finding. For example, discomfort in the treatment

environment or the drive to keep using drugs or alcohol could be reasons for leaving treatment and would have different ways of being addressed.

Treatment agencies have an opportunity to seek housing for people in their programs who are homeless or at risk of homelessness. Housing should be a key casework factor in residential treatment units in particular, given the prevalence of homelessness in that treatment setting. Barriers to accessing housing and tenancy support services for substance users have been identified (Black & Gronda, 2011; Burt et al,2010). Referral from, and advocacy by, treatment providers to facilitate entry into secure housing would seem to be an important strategy that would add value to treatment for substance misuse. Further policy makers could actively supply housing for older men who have been in substance treatment where risk of homelessness is higher than in other age groups.

Three results that did not have a strong effect are still important for treatment providers and policy makers. Firstly the low rate of homelessness amongst people treated for cannabis use and the higher rates of secondary homelessness for heroin and amphetamine treatment episodes are indicators of where housing support is required for people using different types of drugs. The way housing practice may discriminate amongst users of different types of drugs is potentially an area where the policy intent is not translated into reality.

Secondly, in the Australian context where Indigenous health and wellbeing is of national concern, the low rate of homelessness of Indigenous people represented in this study requires further investigation because it is so different to previous studies (e.g. Chamberlain & MacKenzie, 2008). The results of this study suggest limited access to any type of

substance treatment for homeless Indigenous Australians even though high need has been frequently identified (e.g. Allan & Kemp, 2011).

Thirdly, in spite of Australian government attention to homelessness in the development of policies, plans and specialist homelessness services (Homelessness Taskforce 2008), rates of homelessness in the substance treatment population represented in this dataset are unchanged in the past five years. Barriers to accessing housing and homelessness support services for people with substance misuse problems appear to remain even though policy directives have specifically included substance misuse as a target factor for service delivery and prevention activities.

The Australian government implements policy by funding service delivery in the non-government sector. However access to housing and support services for people with substance problems is determined at an operational level through everyday practice. Under this approach, government would need to fund homelessness services for substance users.

Homelessness is a problem experienced by a significant proportion of the substance treatment population and treatment providers have an opportunity and an obligation to address it in their treatment delivery. The way policy is interpreted and operationalised is a critical factor in turning policy intent into reality. The practice of specialist homelessness services in dismantling barriers to housing for substance users requires investigation.

References

Allan, J., & Kemp, M. (2011). Who starts, who finishes and where do they come from?

Aboriginal women in NSW NGO drug and alcohol treatment. *Australian Social Work*, 64(1), 68-83.

Australian Bureau of Statistics (2010), 3201.0 - Population by Age and Sex, Australian States and Territories, Jun 2010, retrieved on 14/02/13 from

[http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/3201.0Main+Features1Jun%202010?](http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/3201.0Main+Features1Jun%202010?OpenDocument)

[OpenDocument](http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/3201.0Main+Features1Jun%202010?OpenDocument)

Australian Institute of Health and Welfare (AIHW), (2007). *Alcohol and other drug treatment services in Australia 2005–06: report on the national minimum data set*. Drug Treatment Series no. 7. Cat. no. HSE 53. Canberra: AIHW.

Black, C & Gronda, H. (2011). Evidence for improving access to homelessness services.

Australian Housing and Urban Research Institute (AHURI) retrieved on 24/12/12 from

<http://www.ahuri.edu.au/publications/projects/psyn059>

Burt et al, (2010). *Strategies for improving homeless people's access to mainstream benefits and services*, prepared for US Department of Housing and Urban Development, Washington.

Chamberlain, C., MacKenzie, D. (2008), Counting the Homeless 2006, ABS cat. no. 2050.0,

[http://www.ausstats.abs.gov.au/ausstats/subscriber.nsf/0/57393A13387C425DCA2574B90](http://www.ausstats.abs.gov.au/ausstats/subscriber.nsf/0/57393A13387C425DCA2574B900162DF0/$File/20500-2008Reissue.pdf)

[0162DF0/\\$File/20500-2008Reissue.pdf](http://www.ausstats.abs.gov.au/ausstats/subscriber.nsf/0/57393A13387C425DCA2574B900162DF0/$File/20500-2008Reissue.pdf)

Fisk D, Rakfeldt J, McCormack E, (2006). 'Assertive outreach: an effective strategy for engaging homeless persons with substance use disorders into treatment', in *American Journal of Drug and Alcohol Abuse*, 2006:32(3):479–86.

Greene, William H. (1993). *Econometric Analysis*, fifth edition, Prentice Hall 720-723.

Homelessness Taskforce (2008). The road Home: A national approach to reducing homelessness. Department of Families, Housing, Community Services and Indigenous Affairs. Retrieved on 24/12/12 from <http://www.fahcsia.gov.au/our-responsibilities/housing-support/programs-services/homelessness/the-road-home-the-australian-government-white-paper-on-homelessness>

Hu, B., Shao, J., & Palta, M. (2006). Pseudo- R^2 in logistic regression model. *Statistica Sinica*, 16(3), 847.

Johnson, G. & Chamberlain, C. (2008). Homelessness and substance abuse: Which comes first? *Australian Social Work* 61 (4): 332-35

Kamieniecki, G.W. (2001), Prevalence of psychological distress and psychiatric disorders among homeless youth in Australia: a comparative review. *Australian and New Zealand Journal of Psychiatry*, 35(3): p.352-358.

Kertesz, S., Crouch, K., Milby, J., Cusimano, R. & Schumacher, J. (2009). Housing First for homeless persons with active addiction: Are we overreaching? *The Milbank Quarterly*, 87(2), 495–534.

R Core Team (2012). R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. ISBN 3-900051-07-0, URL <http://www.R-project.org/>.

Strehlau V., Torchella I., Kathy, L., Scheutz, C., Krausz, M. (2012). Mental health, concurrent disorders and healthcare utilization in homeless women. *Journal of psychiatric practice*. 18(5) 349-360.

Teesson, M., T. Hodder and N. Buhrich (2003) 'Alcohol and Other Drug Use Disorders Among Homeless People In Australia', *Substance Use & Misuse*, 38 (3-6): 463-474.

Thomas, D., (2005). *Finding new stories in old data: archaeology in routine and ABS datasets for answers to Aboriginal health policy questions*. Centre for Health and Society Seminar Series, August 18th 2005.