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The challenge of monitoring growth in regional Indigenous homelessness

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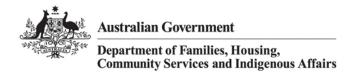
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List of Acronyms

ABS Australian Bureau of Statistics

AIHW Australian Institute of Health and Welfare

CD (Census) Collection District (Australian Bureau of Statistics

geographical unit)

FAHCSIA Department of Families, Housing, Community Services and Aboriginal

Affairs (Commonwealth)

HRPA Homelessness Research Partnership Agreement

IARE Indigenous Area (Australian Bureau of Statistics geographical unit)

ISSR Institute for Social Science Research, University of Queensland

NGO Non-Government Organization

SAAP Supported Accommodation Assistance Program

SD Statistical Division (Australian Bureau of Statistics geographical unit)

SEIFA Socio-economic Indicators For Area, Australian Bureau of Statistics

SLA Statistical Local Area (Australian Bureau of Statistics geographical

unit)

SSD Statistical Subdivision (Australian Bureau of Statistics geographical

unit)

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Executive Summary

In this report we examine methodological difficulties with analysing current data on Indigenous homelessness in Australia, and analyse the cause, consequences and possible methodological and policy implications for this metric problem. We present our findings in four sections:

- an overview of existing homelessness data and problems with comparability across this data
- problems with Census data collection specific to Indigenous households and reflecting homelessness statistics
- alternative sources of data on homelessness and what is possible to gauge from these
- experimental data collection alternatives for identification of 'hot spots' of Inidgenous homelessness to identify possible sites for future in-depth data collection.

The report aims to address understandings of Indigenous homelessness in regional Australian towns and cities from the 2006 Australian Bureau of Statistics Census. However the researchers identified a number of problems with existing Census data on homelessness and access to this data collection that prevented a complete understanding of the precise extent, location and nature of homelessness in these centres. We explain the form of existing data, the presentation of data within available ABS datasets, and use recent examples from fieldwork to show the problems that this can cause for evidence-based policy formulation.

The use of geographical units, which include both urban centres and smaller nearby towns as the basis for the presentation of data on homelessness (as discussed in selected case studies), make town-specific data opaque. This hinders the possibility of understanding the differences between regional towns and cities with regards to homelessness and prevents a meaningful analysis of the specific causes of homelessness at local, regional and broader scales. This analysis of the application of Census data identifies its current limitations for research, and draws out the data collection, management and access issues that prevent a more thorough understanding of Indigenous homelessness nation-wide.

We use data on the provision of services through Supported Accommodation Assistance Programs to show where Indigenous homelessness may be more prevalent at a broad scale, and use this to demonstrate further the problems with current Census data.

We finally propose and recommend additional methods for measuring Indigenous homelessness including in-depth qualitative analysis and longitudinal data collection to facilitate deeper understandings of culturally specific aspects of homelessness such as high Indigenous mobility. We also highlight the possible use of text analysis software to monitor Internet use of keywords in relation to homelessness in particular known geographical areas, to aid in tracking hotspots of activity and interest in homelessness.

1. Introduction

Anecdotal evidence suggests that the severity of Indigenous homelessness problems has been gradually increasing in the regional cities of Australia over the last three or four decades, but there is still no accurate and readily available method of recording, quantifying and comparing spatially or temporally the extent of this problem at the urban level. This paper addresses the methodological difficulties of obtaining ABS data on Indigenous homelessness and public place dwelling in regional Australian cities.

As part of recent research for FaHCSIA, we had intended to analyse ABS statistics to compile a list of Indigenous homeless populations in regional Australian towns that display significant rates of homelessness and public place dwelling. For a number of reasons this was not possible. Yet for a range of service providers operating in regional Australian towns (e.g. housing providers, emergency accommodation providers, night patrols), access to statistics on homelessness can be vitally important for various purposes (e.g. problem analysis, service planning, applying for programme grants); and consequently a lack of such statistics can present an obstacle to service delivery.

Two examples can be given here from recent and ongoing research by the authors and their colleagues. A study of indigenous household crowding in Mt Isa was carried out in mid 2011 (Memmott et al, 2012) which revealed that certain structural drivers (including a two-speed economy) and antecedent factors (including culturally specific behaviours) contribute to the persistent formation of large indigenous households (up to 20 people) some of whom are experiencing significant levels of stress, often exacerbated by alcohol abuse and family violence. Furthermore one particular suburb was identified where the density of Indigenous households was comparatively high, compared to the remainder of the town, such that with the additional phenomenon of large households, there was a significant level of neighbourhood crowding characterized by widespread unwanted anti-social behaviours. The profiling generated by this research stimulated the local state housing department office to carry out an even more intense survey of all its tenants in this suburb to quantify more precisely the secondary homelessness, and to canvas their views on how particular housing management strategies could improve the quality of life in their suburb.

The second recent example occurred at Tennant Creek where as part of the current programme of homelessness research being carried out for FaHCSIA, a study was undertaken of the service delivery of the Women's Refuge which was found to be under extreme pressure due to the high levels of client admission with only a limited number of beds (eight). The high demand of the service was said to be partly due to the widespread crowding in the town and the consequent inability of female victims of family violence to escape large households characterized by stressful living circumstances. The presence of the researchers in town came to the attention of the Barkly Regional Accommodation Group (an umbrella group of all housing agencies) who requested the researchers to provide a quantitative assessment of homelessness (both rough sleeping and crowding) in order to formulate an argument to the Australian Government for funds for more housing in Tennant Creek.

In these two examples we see regional towns whose quality of lifestyle is under duress due to homelessness phenomena in the Indigenous population sector, and whose agencies are in need of basic statistical data (as a first body of data), in order to take action to address their problems.

Therefore this paper begins by outlining the methodological limitations of existing data sets underlying the poor understanding of the severity of Indigenous homelessness at a national scale in a quantitative sense. And it also complements earlier work by Memmott and colleagues (2003, 2011) on why this is not well understood in a qualitative sense. It goes on to explore various options for redressing this research gap.

Early understandings of where Indigenous homelessness is happening

Despite well-known issues with Indigenous homelessness across metropolitan cities, regional centres and in rural and remote areas, little empirical, systematic or academic research on homelessness has been available to accurately portray the dimensions or qualities of homelessness. Rather there has been a reliance on unpublished reports and media items focusing primarily on problems associated with the presence of public place dwellers such as drinking and violence.

One of the first national overviews of Indigenous homelessness was carried out by Memmott et al. in 2002 for the then Australian Department of Family and Community Services (FACS) (Memmott et al. 2003a) but rather than undertaking a quantitative analysis, the study focussed on an analysis of strategies used to respond to Indigenous people who were loosely understood to be homeless and included the terms 'Indigenous Itinerants' and 'Public Place Dwellers' in the title. Summaries of the findings were published in the journal 'Parity' (Memmott 2002, Memmott et al. 2003b).

Subsequent work led to proposals for changing the dominant national three-fold classification of homelessness (primary, secondary, tertiary) to a modified set of categories for Indigenous people: 'public place dwelling', 'at risk of homelessness' and 'spiritually homeless'. These three categories were further broken down into eight sub-categories that were not mutually exclusive, and the first sub-categories included people who were not actually homeless by mainstream terms, but simply choosing to reside temporarily in public places (Memmott et al. 2003c).

The early work on response strategies also identified a set of Australian regional cities in inner and outer regions, and in rural and remote areas, which were experiencing problems with public place dwelling and homeless Indigenous people (see Figure 1). Some twenty-four locations were identified (excluding capital cities) from a search for literature items on problem statements, service delivery issues and practices; however many of these literature items were unpublished reports and media items. There was little systematically published material available. In various cases the increased presence of intoxicated Indigenous public place dwelling people resulted in a media outcry for action and in some cases investigations or strategic planning reports resulted.

Other Indigenous socio-economic circumstances in many of the twenty-four centres are regional circular mobility whereby there is to and fro movement of kin between remote locations and the regional centre; the prevalence of large extended households some of which were suffering from crowding and forms of family violence associated with substance abuse; and 'two-speed' economies generated by mining booms and widening the rental costs between public and private rental housing.

Based on this working knowledge of past locations of Indigenous homelessness and public place dwelling (Memmott et al. 2003a) the authors proposed to FaHCSIA that it would be useful to map the recorded numbers of such people from the 2006 Census data, even though it was acknowledged that these figures were likely to be an undercount (Pink 2007; and discussed in Memmott et al. 2012).



Figure 1: Map of known centres of Indigenous homelessness based on past literature analysis.

Searching the Chamberlain and MacKenzie data

The Melbourne-based researchers Chamberlain and MacKenzie have produced the most comprehensive available compilation and analysis of the 2006 Indigenous homelessness data in the *Counting the Homeless*, 2006 State and Territory reports, on behalf of the Australian Institute of Health and Welfare (AIHW) (e.g. Chamberlain and MacKenzie 2009, 2009a, 2009b). These data comprise information at the State/Territory, Statistical Division (SD) and Statistical Subdivision (SSD) geographic levels. Finer levels of geographic disaggregation appear to be unavailable either in the reports or from the ABS, with the exception of seven 'selected SLAs' (Statistical

Local Areas) presented in the *Western Australia* (2009b) and *Northern Territory* (2009) reports, viz Halls Creek, Wyndham/East Kimberley, Broome, and Derby/West Kimberley for WA, and Katherine, Tennant Creek and Alice Springs for N.T.

Due to access restrictions imposed by the ABS that are aimed at preserving the confidentiality of individual respondents, a spatially disaggregated analysis of homelessness for Indigenous and non-Indigenous persons at the Census Collection District (CD) level or some aggregation of CDs equating to towns or similar urban or rural centres right across Australia was thus not available, thwarting our proposed research to investigate the degree and variation in national Indigenous homelessness at the level of towns (or even suburbs).

In the *Counting the Homeless* reports, the census data on 'homelessness' were broken down into four separate categories that generally correspond to the three categories of homelessness defined by Chamberlain and MacKenzie (2009) (primary, secondary, tertiary). These were (i) 'improvised dwellings, sleepers out', (ii) '[staying with] friends and relatives', and in 'SAAP accommodation' and (iii) 'boarding houses'. The first of these categories corresponds to the current authors' category of 'public place dwelling' and the other three categories correspond to the current authors' categories of 'at-risk of homelessness'.

The difficulty with the data can be demonstrated using the example of the Australian Institute for Health and Welfare (AIHW) information. Data are reported using Statistical Subdivisions (SSD) as the principal geographic units. These SSDs, particularly in remote areas, are large territories that may contain one or more major centres. As further disaggregation to a smaller spatial scale is not common in the homelessness data, it is difficult to know whether one or more towns share this problem, or indeed where homelessness may be more or less severe.

Based on data that was available in the 2009 AIHW Counting the Homeless reports (Chamberlain and MacKenzie 2009), Table 1 shows the top 10 areas (including SSDs and available SLAs) with the highest reported extent of Indigenous homelessness using rankings based on the proportion of reported homelessness relative to the total Indigenous population. Note that dots ('•') denote missing data in Table 1, as areas are represented by either a Sub-division or SLA but not both.

	State	State Division	Sub-division (SSD)	Local Area SLA	Homeless total	Usual population	Proportion of population
1	WA	Perth	Central Metropolitan	•	309	628	0.49

2	SA	Adelaide	City	•	71	183	0.39
3	QLD	Brisbane	Brisbane	•	213	1, 098	0.19
4	ACT	Canberra	Gungahlin-Hall	•	42	289	0.15
5	ACT	Canberra	North Canberra	•	58	437	0.13
6	VIC	Melbourne	City Core	•	101	926	0.11
7	NT		•	Katherine	224	2, 236	0.10
8	NT	Darwin	Darwin City	•	620	6, 847	0.09
9	VIC	Melbourne	Outer City Ring	•	152	1, 997	0.08
10	NSW	Sydney	Sydney City Core	•	276	4, 876	0.06

Table 1: Top ten areas reported (SSDs or SLAs) ranked by proportion of Indigenous homelessness people using data from the Chamberlain and MacKenzie 2009 AIHW Reports.

This analysis was not able to penetrate far beyond the level of capital city, and certainly not down to a level that would include all of the regional towns on the map in Figure 1. Hence, if the Mayor of Kalgoorlie or the Mayor of Mt Isa wished to inquire as to the number of Indigenous homeless people in their respective towns as of the 2006 Census, he or she would be unable to do so using on-line data.

Tables 2 and 3 below, reproduce the only Indigenous homelessness data for SLAs in the *Counting the Homeless* Reports (Chamberlain and McKenzie, 2009) which are Katherine, Tennant Creek, Alice Springs in the N.T. (Table 2), and Halls Creek, Wyndham, Broome, Derby in WA (Table 3). The authors have generated maps of these Statistical Local Areas (Figures 2 and 3) showing the Aboriginal population centres together with tables (Tables 4 and 5) of the overall Indigenous population sizes for the centres in these same regions.

	Group 1 Imp. dwell	Group 2 Friends	Group 3 Board House	Group 4 SAAP	Total	Usual Res. Population	Rate per 10,000	Group 5 Caravan	Total (Incl. caravan)	Rate (incl. caravan)
Katherine	167	5	11	41	224	2, 236	1, 002	0	224	1, 002
Tennant Creek	8	0	25	0	33	1, 637	202	0	33	202
Alice Springs	69	21	20	44	154	4, 894	315	5	159	325

Source: Adapted from Chamberlain and MacKenzie (2009:66). Figures have been adjusted for missing data on Indigenous status, except in seven cases where there was inadequate information to make the adjustment.

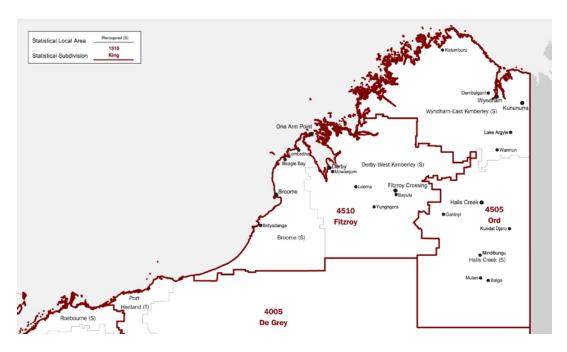
Table 2: Estimated number of Indigenous homeless people by selected SLA Subdivisions in the Northern Territory, 2006

Given these arrays of data, it is still not possible to readily make an inference on exactly where the homeless people are in these regions. For example, there are 59 people identified as 'rough sleepers' (Group 1) in Table 3 for the Wyndham Eastberley SLA. But in this SLA there are two sizeable regional centres, Wyndham and Kununurra, so it is not possible to say whether the 59 are largely in one city or the other, or distributed across both. Similarly in the Tennant Creek SLA, even with a working knowledge of local geography, the eight 'rough sleepers' could be in either Elliot or Tennant Creek itself.

SLAs	Group 1 Imp. dwell	Group 2 Friends/refs	Group 3 Board. Hse	Group 4 SAAP	Total	Usual Res. Population	Rate per 10,000	Caravan	Total (Incl. caravan)	Rate (incl. caravan) per 10,000
Halls Creek	113	7	0	9	129	2, 646	488	0	129	488
Wyndham East- Kimberley	59	3	14	18	94	2, 724	345	5	99	363
Broome	5	28	6	26	65	4, 148	157	14	79	190
Derby West- Kimberley	12	11	30	9	62	4, 459	139	0	62	139

Source: Adapted from Chamberlain and MacKenzie, (2009b: 80, Appendix 2).

Table 3: Estimated number of Indigenous homeless people by selected SLA Subdivision in the Kimberley, Western Australia, 2006



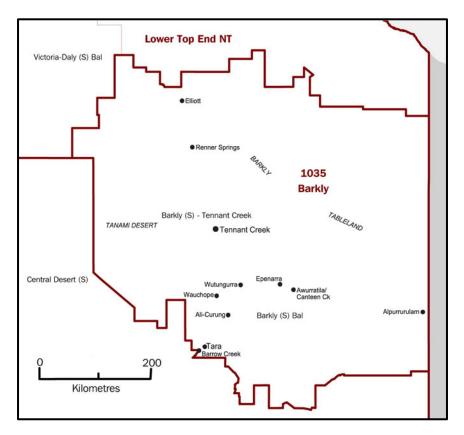
Source: Adapted from map in Chamberlain and MacKenzie 2009b.

Figure 2: Map of Kimberley Region showing population centres. Note the eastern unit corresponds to the Ord (4505) Statistical Subdivision, which contains the Wyndham-East Kimberley and Halls Creek SLAs.

	Indigenous Population	Non-Indigenous Population	Status Unknown	Total Population
Kununurra				
Kununurra	990	2, 184	572	3, 746
Wyndham	308	238	226	772
Oombulgurri	100	8	0	108
Kalumburu	363	49	4	416
Lake Argyle	247	784	83	1, 114
Wyndham-East Kimberley (S) Rem	178	78	60	316
Warmun	193	21	0	214
Balgo	408	48	6	462
Halls Creek Town	850	213	145	1, 208
Halls Creek (S) North	252	81	27	360
Mulan	99	15	0	114
Mindibungu	119	27	0	146
Great Sandy Desert				
Kundat Djaru	107	9	0	116
Great Sandy Desert - Rem	114	25	3	142
Total	226	35	3	264
TOTAL	4, 336	3, 774	1, 127	9, 237

Source: extracted from from ABS 2007 (Table 6, 2006 census counts, Indigenous geographic classification: Western Australia).

Table 4: Population estimates for the Ord Region in 2006



Source: Adapted from map in Chamberlain and MacKenzie 2009.

Figure 3: Map of Barkly Region showing population centres. Note this unit corresponds to the Barkly (1035) Statistical Subdivision and the Barkly Statistical Local Area

Indigenous geographic area/location	Indigenous Populati on	Non- Indigenous Population	Status Unknown	Total Population.	Indigenous Population as %
Tennant Creek Town and town camps	539	0	0	539	100%
Tennant Creek Town (ex. town camps)	891	1, 114	373	2, 378	37.5
Elliott town, town camps	352	51	20	423	83.2
Alpurrurulam township	323	9	11	343	94.2
Ali Curung township	329	15	-	344	95.6
Awurratila/ Canteen Creek township	172	9	-	181	95.0

Wutunugurra/ Epenarra Station	194	3	-	197	96.3
Remainder	461	411	112	974	47.33
Totals	3, 256	1, 618	516	5, 390	63.57%

Source: Extrapolated from ABS, 2007: Table 6 (NT-Tennant Creek).

Table 5: Population Estimates for the Barkly Region (Tennant Creek SLA) in 2006

Further Difficulties with Census and Other Estimates of Homelessness

Both the Australian Bureau of Statistics' regular Census and National Aboriginal and Torres Strait Islander Social Survey (NATSISS) instruments include only those who are 'usually resident' in a private dwelling within Australia. 'Usually resident' is defined as anyone who usually lives in a given dwelling or regards it as their primary residence. This necessarily excludes visitors, which are a frequent occurrence, in Indigenous communities. This non-enumeration not only masks household crowding, as Memmott and colleagues and others have discussed elsewhere, but also secondary homelessness or in the schema we propose, 'at risk of homelessness'. (Morphy 2007:42, Memmott et al. 2011, Horspool and Mowle 2010:6.1.)

The SAAP Service Data for Indigenous Homeless People

The Australian Institute of Health and Welfare (AIHW 2011) has recently described and quantified the homelessness services to Indigenous people (both actual homeless and at imminent risk of becoming homeless) that were provided by SAAP agencies during 2008-9 (2011:62-80). AIHW acknowledged that whereas these data provide "a solid base for reporting on homelessness statistics, it should not be interpreted as representing the entire homeless and at risk of homeless population' (2011:85), nor does it represent all services provided.

The support services were quantified for 2008–2009 by recording the time units of the services provided, termed 'support periods'. AIHW aggregates the total number of support periods according to Statistical Divisions (SDs) and then further, by geographic areas according to the Australian Standard Geographical Classification (ABS 2007a) — See Table 6. The most telling thing about Table 6 is the number of SAAP support periods for Indigenous people which make up about 18.4 per cent of the total support periods, yet Indigenous people only constitute about 2.5 per cent of the Australian population.

The proportion of support periods provided to Indigenous clients can also be aggregated to Statistical Division (SD) areas and mapped "to show the location of

services that provide support to predominantly Indigenous Australians" (AIHW 2011:78). This map (Figure 4) indicates that the highest proportion of support periods to Indigenous clients occurred throughout the remoter parts of Australia with the lowest proportion in the south-eastern and far south-western parts.

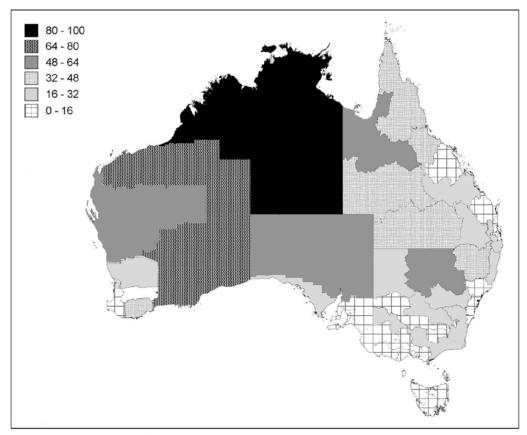
Conversely, the highest proportion of the services to non-Indigenous homeless people occurred in the metropolitan and higher-density population areas of Australia, but this gradually reversed as one moves through the inner and outer regional areas to the remote areas. Additionally it should be noted that the distribution of SAAP agencies dropped from 57 per cent in major cities, through 24 per cent in inner regional areas, 13 per cent in outer regional areas and down to 3 per cent in remote/very remote areas (AIHW 2011:79), demonstrating that the homelessness problem in Australian cities becomes increasingly an Aboriginal homelessness problem the more one travels away from the metropolitan areas of South-Eastern Australia, into rural and remote Australia.

As the SAAP agencies decrease sharply in number however, the actual number of SAAP periods for Indigenous homeless people does not decrease correspondingly (see Table 6). This suggests that there is an acute homeless problem in many regional towns and cities in rural and remote Australia, and further, that homelessness in regional, rural and remote Australia is a distinctly Aboriginal homeless problem.

	Indigenous		Non-I	ndigenous	Total		
Region	Total (%)	Total (number)	Total (%)	Total (number)	Total (%)	Total (number)	
Major City	36.6	11,400	70.9	98,000	64.6	109,300	
Inner Regional	18.7	5,800	19.5	26,900	19.3	32,700	
Outer Regional	25.7	8,000	8.6	11,900	11.8	19,900	
Remote	6.8	2,100	0.8	1,000	1.9	3,200	
Very Remote	12.2	3,800	0.2	300	2.4	4,100	
Total	100.0	31,100	100.0	138,100	100.0	169,200	

Source: AIHW 2011: Table 1.9 (p.16), based on SAAP Client Collection, SAAP Administrative Data Collection. See original table for further methodological qualifiers. Region in this report is based on the Australian Standard Geographical Classification (ASGC) Remoteness Structure (ABS 2006).

Table 6: SAAP support periods by region and Indigenous status, 2008-09



Source: From AIHW 2011: Fig. 6.2, based on SAAP Client Collection.

Figure 4: Proportion (by percentage range) of SAAP support periods for Indigenous clients out of a total of SAAP periods for all clients (Indigenous and non-Indigenous) by Statistical Division (SD), 2008-2009

Proposed alternative for monitoring regional Indigenous homelessness

The following alternative approach to that of using the existing ABS data for monitoring regional Indigenous homelessness is set out as two parts, 'Tracking the hotspots' and 'Enhancing the capacity of the analytical models'.

Tracking the 'hotspots' of Indigenous social dysfunction in Australian regional cities

In attempting to identify an alternate method for monitoring where Indigenous homelessness is occurring in regional Australia, we have devised a new approach using a recently developed methodology. This involves implementing regular searches of the textual media concerning regional towns where Indigenous social problems may be occurring using an electronic search engine in order to make an initial assessment of the developing nature and severity of this problem. Newspaper

data is available from several sources, including Google's news alerts and the Factiva news database.

The Leximancer text analysis system developed at The University of Queensland (Smith & Humphreys 2006) is available for performing reproducible contextualised analysis of such large text collections. This software performs an automated grounded thematic analysis, allowing the researcher to focus on interpretation.

New software called "Harvest" is also available that discovers structure, meaning and logic from large, unstructured document repositories. It is a system that automatically extracts a relevant knowledge schema (or ontology) from textual data. It discovers events from the text and mimics human searching capabilities and automatically populates a database for any type of information analyst (p.c. Prof Lorraine Mazerolle, University of Queensland, 28/07/11.)

Such computing tools and information sources could be adapted and developed to maintain surveillance of regional and state newspapers as well as television and radio website transcripts (and any other identified suitable textual data source). It would be used to monitor Indigenous public place dwelling, homelessness, antisocial behaviours and other designated social problems in a targeted set of regional towns and cities throughout Australia. To achieve this we would start by building 'concept maps' with FaHCSIA together with sets of keywords for search purposes.

The material so collected could be summarized into a data report at suitable reporting intervals (e.g. quarterly) for FaHCSIA. Selective reports could also be prepared on individual towns as required. An annual summary overview of findings could also be compiled in a suitable format.

A final step of the methodology would be to carry out, from time to time, a field-based study by expert social scientists in such a town or city experiencing more systematic acute problems (perhaps at a peak 'season' of dysfunction) to validate the web-crawling findings, to provide a qualitative research profile and to assist in strategic social planning in collaboration with government and NGO agencies.

Enhancing the capacity of analytical models of Indigenous homelessness with community level data

At the time of writing, a patent was being sought for this software at the University of Queensland.

Along with monitoring the growth in regional indigenous homelessness, part of our rationale for seeking data at the level of towns was to investigate the possible link and statistical associations between individual/household level disadvantage amongst Indigenous persons and the cultural and socio-economic context of their community and town environments. Specifically, we planned to focus on those towns and regional cities noted above where our research team have identified a profound set of socio-economic problems including homelessness, housing stress, crowding, alcohol abuse, family violence, unemployment and other social problems. If it were possible to link individual level survey data - such as that collected in the National Aboriginal and Torres Strait Islander Social Survey (NATSISS) or the Longitudinal Study of Indigenous Children (LSIC) - with data from other sources - such as the Census - at the more aggregate level of a standard geographical location classification such as CD, then we could investigate the effects of neighbourhood and community characteristics, including area-level measures of disadvantage such as SEIFA, unemployment rate, social problems related to crowding, homelessness and other social problems, on individual and household measures of disadvantage and well-being.

Due to the relatively low numbers of Indigenous persons from any one town or settlement that participate in national surveys, researchers are currently not permitted access to information about this level of geographical location in which the person resides at the time of the data collection. While this preserves an individual's privacy, it prevents us from examining associations between individual levels of disadvantage and other situational factors in the community context. Because we know from previous research that homelessness and disadvantage often occur in clusters or 'hotspot' areas, then any estimates of association between selected variables will be largely influenced by the areas in which people live. A quantitative analysis of disadvantage and well-being that ignores the effects of neighbourhood is problematic and will lead to biased results and inaccurate interpretation.

The main aim of obtaining this level of geographical information is to enhance the explanatory and predictive capacity of models developed for important measures of social and family well-being recorded in the aforementioned survey data sets by identifying ways to link what are often rich sources of data on Indigenous persons and their households to other quantitative data that characterize the communities in which they live, as well as to qualitative models and location profiles that are already in existence. One way to achieve this would be to match records from these data sets at the level of Indigenous Area (IARE) or settlements and towns.

With some surveys, such as the Longitudinal Study of Indigenous Children (LSIC), study sites have been chosen in Australia so that there is approximate equal representation of Indigenous households across urban, regional and remote areas. It is therefore important in the analysis of such data to correctly model the area-level clustering of observations. In a multilevel approach, sources of variation and influence can be determined at the level of the individual, household and neighbourhood or community if the relevant data are available. As stated above, research has shown that 'hotspot' areas of social disadvantage and dysfunction exist, along with associated issues of crowding and homelessness. Analysis of survey data would be greatly enhanced by including these area-level measures in the development of models for individual and household outcomes, to identify influences associated with neighbourhood and community effects that may differ from non-Indigenous communities.

The presence of critical social problems in a town, such as crowding and homelessness, that are measured at the area-level, may correlate with other individual-level or household-level variables such as indicators of disadvantage in health and child and family functioning to reveal neighbourhood or community effects associated with these outcomes. If a significant statistical association of both socio-demographic factors and area-level variables with these outcomes could be demonstrated, then non-statistical causal relationships could be investigated through selected in-depth interviews with Indigenous participants from 'hotspot' areas to interrogate the nature, effect and relationship between social disadvantage and dysfunction, and issues of crowding and homelessness.

Analyses of the same measures could then be undertaken using national sources of comparative data such as The Household, Income and Labour Dynamics in Australia (HILDA) Survey, or the Longitudinal Study of Australian Children (LSAC). By conducting the same analyses with these alternative data it would be possible to assess whether associations identified using Indigenous survey data are unique to Indigenous households or common to all Australian households, when the neighbour context is considered. The results of these comparative analyses can assist in making important policy decisions.

2. Conclusion

We argue there is a strong case for all levels of government, as well as NGOs, to be able to accurately monitor where growth in Indigenous homelessness is occurring in regional Australia and where 'hot spots' of growth and anti-social behaviour might be. However, we conclude that with the currently available tools (publicly available data sets), it is not readily possible to model Indigenous homelessness for cities, and only for regions with some difficulties. The local detail, and the fluidity and mobility of Indigenous public place dwelling and homeless people (Memmott et al. 2004, 2006) are not readily captured by and accessible from the five-yearly national census. Only coarse spatial and temporal generalisations are available. The NATSISS mirrors Census in its approach to counting homelessness, and it too cannot provide detailed data for homelessness in specific locations.

What is needed is a methodological approach that uses a different conceptual frame for identifying those Indigenous people who are technically homeless, in order to obtain more accurate quantitative and qualitative data. Current approaches to calculating homeless people are based on ideas of homelessness that are not included in current data gathering methodologies. A new methodological approach is required that includes this 'conceptual frame' that considers Indigenous mobility, obligations, constructs of home and visitation in order to understand who is 'homeless', who is 'visiting' and who is adequately housed. To capture the dynamic aspect, a more rigorous longitudinal approach with shorter time intervals between data collection is needed. New tools or methods are required if the ABS or FaHCSIA is to be able to render such a service. And even when such a service becomes available, supplementary methods are required to provide qualitative understandings as well as evaluate the methodological limitations of the quantitative data sets. If ABS is unable to render such a service, it is recommended that FaHCSIA commission consultants to carry out scoping studies of homelessness in regional towns at least once every five years to monitor whether circumstances are improving or deteriorating in the 24 locations identified in Figure 1.

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