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# Using Administrative Data for Research on Homelessness: Applying a US Framework to Australia

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**Abstract**

*The past decade has seen increased use in Australia in the use of administrative data in homelessness research. We review this research, using a framework from the US literature, and highlight innovative and policy-relevant Australian initiatives in five areas. While the use of administrative data in Australian research on homelessness has lagged behind what has been done in the United States, the emerging body of Australian research in this area should continue to take an increased role in understanding and informing responses to homelessness. We conclude by assessing the opportunities and challenges facing continued research using this type of data.*

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## 1. Introduction

Twenty years ago, Culhane and Metraux (1997) presented a research agenda to guide the still novel approach of using administrative data to inform research and policy on homelessness. At that time, Culhane and his colleagues had published several studies (for example, Culhane et al. 1994) that had demonstrated how administrative data could provide a basis for fresh perspectives on homelessness. In their agenda, Culhane and Metraux presented five domains for extending the reach of administrative data: (i) population, enumeration and composition; (ii) integrated database research; (iii) time series and longitudinal studies; (iv) program evaluation; and (v) system management and administration. Here, we apply their agenda to an Australian context and examine the progress made in using administrative data to inform research on Australian homelessness.

Administrative data, in the context of research on homelessness, are computerised records that are collected by public and non-profit agencies on the services that they provide and the persons that use them. As administrative databases have become more commonplace, so has their role in research applications. As with all data types, there are advantages and disadvantages inherent to using administrative data in research. Administrative data represent an accurate, timely, inexpensive and practical means of collecting longitudinal data on service use, earnings, program eligibility and other related areas and are the only way to

cover populations that can number in the millions over extended periods of time. However, the data collection processes are not as reliable as data collected for research purposes and researchers have the post hoc challenge of adapting to, and making do with, the available data elements. Furthermore, a person's homelessness will only be represented through administrative data insofar as it involves the use of services, thereby under-representing those who do not use services.

The US research based upon administrative data has had a substantial impact on homelessness policy (Lee, Tyler and Wright 2010). This US research has also been influential in Australia, particularly on topics such as chronic homelessness (Kuhn and Culhane 1998) and cost offsets (Culhane, Metraux and Hadley 2002). But, while Australians seem receptive to the influence of such US studies (Pinkney and Ewing 2006; Parsell, Petersen and Culhane 2016), administrative data have had a less prominent role in the country's own research on homelessness, despite notable advances in recent years.

Several factors give some context to this. One is a late start. While we use a 20 year old research agenda, the Australian research initiatives mentioned here are all from after 2008, which was also the year that the Australian Government issued 'The Road Home: A National Approach to Reducing Homelessness', an influential white paper that set a coordinated, national approach for reducing homelessness and called for 'rigorous, accurate and reliable national data' upon which to build research on homelessness (FaHCSIA 2008, p 58). The second factor is operational, as the predominant homelessness definition in the United States is a literal one, limited primarily to those who are using homelessness services or sleeping rough. Such a definition is more amenable to the service-based parameters of administrative data than the more expansive cultural definition of homelessness that is pervasive in Australia (Chamberlain and MacKenzie 1992). Third, while gaining access to administrative data is often universally fraught with concerns about confidentiality, proprietorship and legal concerns, these barriers seem particularly pernicious in an Australian context (Productivity Commission 2013). A final consideration is cultural, as there is a more practical orientation in US research towards quantifiable outcomes, expressed in such terms as program accountability, program evaluation and cost–benefit analyses (Lee, Tyler and Wright 2010), while Australian research leans more toward the sentiment that 'not all client outcomes can or should be monitored in an administrative data set' (Gronda, Ware and Vitis 2011, p. 27).

Despite these circumstances, a noteworthy body of Australian research on homelessness has emerged that is based, in part or in whole, upon administrative data. Revisiting the framework of Culhane and Metraux (1997) gives us occasion to review this Australian research in the framework of the five aforementioned agenda items. We then conclude by assessing the current state of this research in Australia and future directions for this research to take.

## 2. Population Enumeration and Composition

The most extensive use of administrative data in the area of homelessness has been to address questions related to 'Who?' and 'How many?'. Since the agenda of Culhane and Metraux (1997), both the United States and Australia have developed uniform and systematic data collection processes for homelessness services nationwide. In the United States, federal requirements mandate that local jurisdictions that receive federal homelessness assistance establish and maintain homelessness management information systems (HMISs) that collect basic and standardised information on local homeless populations and services. These data remain in local hands, but are also provided to the U.S. Department of Housing and Urban Development and form a basis for its Annual Homelessness Assessment Report (AHAR). Through the AHAR structure, local data have been compiled and aggregated since 2006 and the resulting reports can now reveal trends in

numbers and characteristics (U.S. Department of Housing and Urban Development 2016).

In Australia, there is a comparable database, the Specialist Homelessness Services Collection (SHSC), compiled by the Australian Institute of Health and Welfare (AIHW). Since 2011, AIHW has mandated that the approximately 1,500 specialist homelessness services that receive public funding report data to SHSC (Flatau et al. 2015). The SHSC is an overhaul of the previous data collection system for specialist homelessness services and came in direct response to the call for improved data in The Road Home (FaHCSIA 2008). Implementation of SHSC brought improved capacities for following service users longitudinally and for linking these data with other systems (Neideck, Siu and Waters 2015). Based on SHSC, AIHW produces annual, online reports and maintains a data cube that permits users to generate their own cross-tabulations (AIHW 2016b). These outputs have received limited attention and SHSC has elicited concerns about its comprehensiveness and representation with respect to the overall homeless population (Johns 2012; Scutella and Johnson 2012). However, SHSC (like HMIS) has been the impetus for individual agencies to implement and expand their data collection systems and, as such, represents a foundation for expanding the role of administrative data in homelessness research.

## 3. Integrated Database Research

The capabilities of research based upon administrative data expand considerably when data across multiple systems are combined (Gruen and Goldbloom 2008). Such data integration permits assessments of systems crossovers and the correlates of service use patterns and shows how homelessness systems and other service systems impact each other.

In Australia, SHSC provides a centralised repository that appears well suited for matching databases and assessing the extent to which users of other services also use homeless services. So far, such studies have been limited to those undertaken by the AIHW that merge SHSC data with other databases, such as one covering drug treatment services (AIHW 2016a) and another with data on public housing tenancy (AIHW 2015).

The best-known genre of homeless research based upon integrating administrative datasets are cost studies. Such studies have highlighted the often considerable and hidden expenses of homelessness borne by other systems, thereby making the case that housing the homeless can be beneficial both from economic and humanitarian perspectives. The US study that initially drew attention to this approach featured a complex quasi-experimental design, using data from seven public service systems, to show how over 90 per cent of the cost of providing permanent supportive housing in New York City to homeless persons with psychiatric disability was offset by collateral savings in service costs (Culhane, Metraux and Hadley 2002). The subsequent proliferation of similar cost studies in the United States and Canada has been instrumental in supportive housing and housing first initiatives taking on central roles in policy responses to homelessness (Parsell, Petersen and Culhane 2016).

Two Australian monographs (Berry et al. 2003; Pinkney and Ewing 2006) recognised early on the importance and the limitations of applying such a cost-based approach to homelessness. However, while recognising the power in making an economic case for housing the homeless, they also pointed out the logistical challenges inherent to the data, in terms of availability, quality and coverage, that limit the ability of cost studies to make comprehensive assessments of economic benefits. In response to these quandaries, the major Australian cost studies have typically featured administrative data as one of several data sources, while assessing cost-effectiveness as one of a range of outcomes linked to homelessness programs in Western Australia (Flatau et al. 2008; Wood et al. 2016), New South Wales (Baldry et al. 2012) and nationally (Zaretzky and Flatau 2013, 2015). The most recent of these studies makes the most extensive and exclusive use to date of linked administrative data among studies of Australian homelessness (Wood et al. 2016).

## 4. Time Series Analysis and Longitudinal Studies

Metraux and Culhane (1997) had originally designated an item on their agenda as 'time series analysis', which we have broadened to include integrating administrative data in with longitudinal panel data. In the original agenda, the vision was for time series analysis to include applications that would enable researchers to model trends in phenomena, such as shelter admission rates or rates of recidivism, so as to estimate the impacts of specific policy changes and other events that occur along a time continuum upon these rates. Econometric models, such as interrupted time series methods, could take into account the impacts of seasonality and specify the lag before the impact of a policy may be felt. Adding longitudinal studies to this item also takes advantage of the capability of administrative data to provide multiple measures over time and permits looking at pathways into and out of homelessness, as opposed to conceptualising homelessness as a dichotomous variable (Lee, Tyler and Wright 2010).

There have to date been a limited number of studies that have used the time series forecasting models envisioned by Culhane and Metraux (Corinth 2015). Other US studies have used administrative data in more descriptive time series approaches to examine ageing trends (Hahn et al. 2006) and cohort effects (Culhane et al. 2013) among the homeless population, thereby documenting demographic dynamics that have garnered more policy attention than the more sophisticated analyses.

An Australian initiative represents an innovative, alternative approach to using administrative data in a longitudinal framework: 'Journeys Home: Longitudinal Study of Factors Affecting Housing Stability' is a panel survey that followed a large group of persons who were homeless or at risk for homelessness over six survey waves between September 2011 and May 2014. These individual survey records are linked with administrative data from Centrelink, the Australian Government's administrator of national welfare programs, to add data on the receipt and timing of income supports to the survey data covering individual characteristics and circumstances. Journeys Home, in terms of its scope and capability to explore pathways in and out of homelessness, is a globally unique dataset (Scutella and Johnson 2012; Wooden et al. 2012). Ribar (2017), in this issue, provides a detailed review of the early research using Journeys Home data.

Centrelink administrative data have supplemented the survey data by providing a basis for more precise measures of income and income support histories, as well as benefit suspension histories. More detailed information from Centrelink administrative data is available, but has been difficult to access due to logistical and administrative obstacles. Looking ahead, the scope of data provided by Centrelink and the opportunity for linking to Journeys Home represent as yet untapped opportunities for expanding the longitudinal reach of administrative data.

## 5. Program Evaluation

Due primarily to the crisis nature of homelessness and chronically insufficient funding, homelessness programs have typically emphasised providing services over evaluating what works. This is changing globally and particularly in Australia since the call for more data-informed practice in The Road Home. Here, administrative records provide a practical data source that takes into account concerns about cost, timeliness, sufficient statistical power and data-gathering burden. They can be used in both experimental and quasi-experimental evaluation approaches, either as a sole data source or to complement other survey data or in-depth interviews in multi-method designs. Utilisation of administrative data can help make such program evaluations a routine part of policy analysis and program planning.

In Australia, there have been large-scale evaluations of homelessness programs based largely upon administrative data (for example, Government of South Australia Department for Communities and Social Inclusion 2013; KPMG 2015) and others of smaller scope that integrate administrative data with other methods (for example, Mission Australia 2012;

Mason and Grimbeek 2013; Parsell et al. 2015). Many of these evaluations use the SHSC data, demonstrating how this nationally mandated data collection process provides opportunities for individual programs and regional aggregations of programs to use localised sub-sets for their own ends. Alternately, some of the smaller evaluations collected data through requests for administrative records on particular individuals, with their permission, from other service systems. Both approaches show how, as administrative data becomes more widely available, using such data becomes increasingly feasible for evaluations.

## 6. System Management and Administration

In the two decades since Culhane and Metraux (1997) laid out their agenda, there has been an increasing emphasis on homelessness services to demonstrate programmatic outcomes (Crook et al. 2005; Willse 2015). Administrative data can be a basis for understanding not only system-wide patterns of service utilisation and the effect of various policies and programs, but also the performance of providers in meeting program objectives. Outcomes can be as basic as the extent to which homeless households move through a program and into independent housing. Measures that can be readily derived from administrative data, such as length of stay and readmissions, can be used to gauge performance, and thereby serve as a basis for planning, implementing and monitoring changes in reimbursement mechanisms and for creating performance-based contracting systems. Such a process stands to increase the accountability of provider organisations and move the system toward agreed-upon program objectives (Burt and Spellman 2007). In the United States, Culhane et al. (1999) laid out an accountability framework and followed up with an assessment of initiatives that sought to implement accountability systems (Culhane et al. 2007).

The only ongoing Australian performance-based initiative we could locate was the Steering Committee for the Review of Government Service Provision (2016) housing and homelessness volume of their annual report on government services. They use SHSC data to examine specialist homelessness services through measures that are based on objectives outlined in the National Affordable Housing Agreement, a primary source of national government funding for homelessness services. While the examination of the data is thorough, it is limited in that it must conform its measures to data available in the SHSC.

## 7. Future Directions and Conclusion

Applying the research agenda framework of Culhane and Metraux (1997) to the role of administrative data in Australian homelessness research showcases some noteworthy developments over the past decade. Most prominently, the SHSC database on nationally funded specialty homelessness services provides reasonably comprehensive coverage of homelessness service users, the Journeys Home survey provides an innovative integration of longitudinal survey data and administrative data and a growing body of cost studies increasingly draws upon administrative data for its findings. Each of these is a foundation for vital, policy-relevant research consistent with what was envisioned in The Road Home.

Despite this, more can be done. The applications of administrative data in the context of Australian homelessness research have been largely descriptive thus far. Such research underscores the ability of administrative data to inform practical and policy-specific questions. But, as the available administrative data sources become more diffuse, there is increased opportunity for using more rigorous and sophisticated quasi-experimental designs and other methodological approaches. Machine-based learning, for example, is a class of approaches that is particularly well suited to exploit large administrative datasets and provide information on risk factors for homelessness and inform prevention initiatives.

Facilitating access to existing administrative databases is prerequisite to advancing this line

of research and stands in opposition to a risk-averse culture that is predominant among government agencies. The Productivity Commission has been sharply critical, in a general context, of government reticence toward facilitating access to existing administrative data sources. The assertion of the Productivity Commission (2013, p. 1) that 'academics, researchers, data custodian agencies, consumers and some Ministers are eager to harness the evidentiary power of administrative data, but this enthusiasm generally is not matched by policy departments' underscores their contention of administrative data as a vastly underutilised resource.

This lack of public leadership has been particularly acute with respect to homelessness, as shown by the national government's withdrawal of resources for the National Homelessness Research Strategy in The Road Home. Parsell and his colleagues have pointed out a parallel reluctance by homelessness service providers, fuelled by a culture of advocacy, to embrace empirically based research that focuses less on expanding services and more on assessing what works among current programs (Parsell, Fitzpatrick and Busch-Geertsema 2014; Parsell and Jones 2014). There are, however, exceptions to this. The Western Australian Data Linkage System (Holman et al. 2008) is a model for facilitating research based upon data integration and Wood et al. (2016) have used these data in examining the broader impacts of providing public housing to homeless persons.

A final challenge for providing a bigger footprint for administrative data is the expansive, cultural definition of homelessness used in Australia. The heterogeneous constituencies that fall under 'homeless' with such a definition are not always well served by administrative datasets as their housing needs are not always captured in their use of services. For example, only 19 per cent of the homeless population is captured in the SHSC data (Zaretzky and Flatau 2013). Far from arguing here for a more restrictive definition of homelessness, these circumstances underscore the need for including data from a wider array in examining housing status. The cost studies represent a start for such an approach, as does the use of Centrelink data to inform selection of the study group for the Journeys Home study.

Twenty years ago, Culhane and Metraux titled their agenda 'Where to from here?' In an Australian context, one answer has come from FaHCSIA (2008, p. 58) in its call for better information:

> ... on the many different pathways people take through the service system to measure longer term social and economic participation outcomes and to improve the service offer to people who are homeless or at risk of homelessness.

Judging from this review, research based on administrative data has made marked strides toward filling this need for information and promises more in the years to come.

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