
Finding and Using Rural Aging Data: An International Perspective

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ABSTRACT: *This article reports on a workshop in which participants identified sources of data on rural aging. Such sources are typically part of larger data collection efforts or special aging studies with large rural components. Finding and using data on rural aging are not only two different processes but they also face somewhat different obstacles and the solutions are likewise different. The workshop addressed both of these issues. Participants shared many innovative and creative means for collecting, finding and adapting more general data sources, and analyzing and using these data, to further our understanding of rural aging phenomena.*

There are several excellent sources for data on rural aging, although few are actually designated as rural aging sources. They are typically part of ongoing data collection efforts or of special studies on aging that have large rural components. The analyses of these data frequently do not make rural issues explicit. For example, the national census in every country collects data on age and region; what is less common is for census-based analyses and reports to identify the rural aging cohorts and their specific experiences of aging. They will usually report the age and sex structures of the whole population and may disaggregate the data to report these structures for the urban and rural regions of the country. Rarely do they report the marital status, living arrangements and other socio-demographic variables about rural aging cohorts separately. In other words, the variables of interest exist in most censuses but the standard reports do not reveal

the pertinent characteristics of rural older persons. The same observation can be made about most studies of aging. In fact, rural populations are frequently excluded from these studies.

Finding Rural Aging Data

One will most frequently have to find the raw data rather than rely on published reports to undertake analyses of rural aging phenomena. Havens (2000) noted that the sources of census-type data include the national census bureaus in most countries, and the United Nations also houses much of these data as a result of publishing the *UN Demographic Yearbook*. The U.S. Census Bureau also maintains an international database, as do university-based population laboratories. The International Institute on Ageing (UN Affiliate) in Malta has published monographs on aging in

many countries (especially developing countries), however, the Institute does not house the data and rural phenomena are not always identified.

Most developed and some developing nations (e.g., Brazil) conduct regular or occasional national or regional social surveys, and some countries conduct health surveys. Access to the raw data will generally be required to undertake analyses of rural aging phenomena, as these are seldom contained in survey reports. For example, the General Social Survey in Canada is conducted annually and contains rural older persons as respondents, but in the 20 years since its inception only two citations (Bollman and Biggs, 1992; Norris and Johal, 1992) have specifically addressed or used data on rural aging.

There are studies of aging that do include rural aging issues, but the published reports generally do not address rural aging specifically (Havens, 2000). For example, the Canadian Survey of Ageing and Independence and the Canadian Study of Health and Aging have not produced a single rural aging article. Continuing with Canadian examples, two sources of data that are especially useful for providing information on rural aging are the Census of Agriculture (specific to rural Canadians of all ages) and the Aging in Manitoba Study (AIM; specific to older people in the province of Manitoba). Statistics Canada conducts the Census of Agriculture every five years, at the same time as the Census of the Population. Many countries conduct agricultural censuses, with a selection of the data forwarded to the Food and Agriculture Organization of the UN (FAO), and subsequent analyses conducted by FAO are distributed by them.

At the workshop, Libor Stloukal from FAO presented examples from developing countries. Agricultural censuses offer advantages for understanding the agricultural sector and the people belonging to it. The main virtue of agricultural censuses is their coverage. They are the only data collection effort that produces small-area data on farms and farm households for nearly all agricultural establishments in a country. Their scope means that a limited number of simplified questions are included on each topic. These data have implications for the depth and quality of the data that can be captured. Because the focus of these censuses is on production resources rather than human resources, the characteristics of people attached to agricultural holdings may receive marginal attention.

Nevertheless, agricultural censuses can be used to identify important associations between the age structure of the farm population and aspects of the agricultural system. Agricultural censuses provide a unique

opportunity to link information on the techno-economic features of agricultural holdings and the demographic characteristics of the holders and their households. It becomes possible to apply a more holistic perspective to study the situation of older people within the broader contexts of the agricultural sector.

Stloukal identified the strengths of these censuses as being readily available in a large number of countries, often for several consecutive years, and providing a rich reservoir of evidence that can be analyzed with little extra cost. Most agricultural censuses cover a range of socio-economic and environmental contexts that permit disaggregated analyses that are seldom possible with in-depth surveys. Analyzing these censuses can lead to challenging some of the prevailing misconceptions about the role of rural older people, especially in developing countries. The limitations of these censuses include the approach to demographic concepts, the enumeration criteria accepted and data collection and publication practices. Consequently, these censuses cannot provide perfect information on rural elderly populations. In fact, agricultural censuses are not well-suited to soliciting information on living arrangements, health conditions, agricultural productivity, income and wealth of older people, support systems available to them, etc. (Stloukal, 2000).

Havens described the AIM Study (Havens, 1996; Hall, 1997; Hall, et al., 1997) as the largest and longest longitudinal study of aging in Canada involving nearly 9,000 people over a period of 30 years. The samples are representative of older Manitobans. The distribution of AIM participants is between 60 and 66 percent rural, depending on the interview year. There are other smaller studies specific to rural aging in Canada but these tend to be too location specific to be useful for understanding the broader rural aging phenomena. Similar studies in the United States frequently contain but do not analyze data on rural aging, or again are too location specific (Bull, 1999). Fran Racher (2000) presented examples of small studies that are locally useful although less helpful in explaining rural aging at a broader level.

The presentations of Doug Norris and Janice Keefe provided examples from the Canadian General Social Survey (GSS). Norris (2000) raised the important issue of the lack of a standard definition of "rural." Typically, urban centers are defined by size and rural is

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defined by the default of being the residual population. Given the definitional problems in national data sources, even greater problems occur with postal codes and telephone area codes because these systems add codes based on population densities, making them less reliable in identifying rural areas. Administrative databases may be affected by these variations, depending on how their geographic identifications are established. The major impact of this lack of a standard definition is on rural sample sizes and on the effect on research designs that may preclude analysis of rural phenomena, especially rural aging phenomena.

For example, as Norris noted, in a national survey sample of 10,000, if the rural population is 22 percent and the rural population age 65-plus is 2.5 percent (Canada in 1996), any analyses of rural aging phenomena would be based on 250 people, too few cases for most analytic purposes. Even with a sample size of 100,000, the potential for analysis of rural aging phenomena would be restricted to analyses that are viable with 2,500 cases. Additional problems are encountered when policy issues generate demands for oversampling (e.g., urban issues, youth and young adults, employment) that are not matched by demands for data about older people, especially rural older people. One alternative is to mount very large household surveys, which is a costly option.

These problems are further exacerbated by the necessity to protect confidentiality in public use data files, which often precludes identification of rural respondents. The latter problem has been largely resolved in the United States by the new geographically dispersed Census Research Data Centers, a solution that is just beginning to evolve in Canada (Norris, 2000).

Both Fran Rancher and Antonia Coppin presented examples of finding data that are useful to understanding rural aging at a more local level. Rancher identified examples based on locating appropriate administrative data, mounting local survey data collection and undertaking qualitative studies of rural older couples. In the case of administrative data, she made two important points. First, looking for non-age specific data that use age as a variable will increase the sources that are appropriate to a particular question. Second, looking for nonhealth specific data that have one or more of the health determinants as variables will increase the number of appropriate data sets. For example, rural motor vehicle accident statistics may become useful for healthy community programs, not just for safe driving or accident reduction classes, but also for determining whether safe driving programs

are warranted with seniors or whether a traffic signal should be moved to make it more visible, etc. Similarly, statistics on unemployment may be powerful indicators of poverty, and if the unemployment distribution is skewed to rural residents or toward those nearing retirement age, then health care interventions alone may be far less appropriate than addressing poverty and unemployment coupled with health promotion efforts (Racher, 2000).

Coppin identified three problems that relate to rural health and aging data in Venezuela beyond those identified by the other presenters. First, she noted that higher rates of illiteracy among rural populations presented challenges to both the collection and use of relevant data. Second, she noted the combined liability of the lower priority assigned by the official statistical agencies both to rural populations and to older people. Third is the lack of adequate training in the collection, analysis and use of data, combined with limited training of professionals to work in rural areas and with older people. To address these problems, the training programs for health and gerontological workers have taken a two-pronged approach by including a mandated rural practicum that, in part, requires the collection and reporting of rural aging data. Consequently, students are trained to collect and use data at the same time that new and more complete data are becoming available to researchers, clinicians and policy-makers. She presented several examples from student reports to highlight the success of this approach, including use of these data in policies, program development and service delivery that focus on rural older people (e.g., development of targeted health promotion programs in small rural centers, which included evaluation projects [Coppin, 2000]).

Using Rural Aging Data

Stloukal (2000) noted that the data on older people in agricultural censuses are rarely analyzed and even less frequently provided to users. This is unfortunate, as analyses of agricultural censuses have the potential to expand the understanding of demographic change in the agricultural sector and to address policy issues. In particular, these analyses can identify the interconnections between demographic aging and issues that are vitally important at a national level (e.g., food production and food security, supply of agricultural labor, poverty and access to resources). Insights derived from these analyses can be used to guide policies and

programs to manage the social and economic challenges brought about by the aging of rural communities.

Janice Keefe (2000) identified some components of rural populations such as size, density, location (i.e., distance from an urban center and remoteness, ideology or way of life) and roots (i.e., length of residency and migration patterns). Using analyses that she had performed with the 1990 GSS, Keefe highlighted the importance of analyses that are based on subnational or regional populations to understand the rural diversity that is important to policy-makers. For example, policies that are developed from the perspective of an "average" Canadian caregiver will ignore both rural/urban and regional variations.

On the basis of her research (Keefe, 1998), she reported that using the national average findings ignores the differences among regions. For example in the Atlantic region, rural women (age 30 to 64) regardless of their employment status are consistently more likely to help their parents than are urban women. By contrast, in British Columbia employed rural women (age 30 to 64) are less likely to provide care to their parents than are employed urban women. Policies based on the national pattern, which is similar to that in British Columbia, would therefore be inappropriate to rural women in Atlantic Canada.

Racher (2000) noted that the use of administrative data enables community planning and specifically planning services appropriate to community-dwelling seniors. Further, these data may be used for evaluating services and programs, enabling them to more appropriately serve their target populations and likely be more cost-effective (Chappell, et al., 1998). Racher also stated that conducting qualitative studies of rural older couples not only enhances understanding of these couples but also understanding of how, why and when community services will be used to address problems encountered by seniors living independently in rural communities. These latter insights may be used by policy-makers and clinicians to identify the most suitable points and times of interventions and also guide program or service delivery modifications.

Conclusions

Although we complain about the lack of data on rural aging, the problem may be less a matter of a lack of data than of the lack of use of all possible data to produce an understanding of rural aging issues and

phenomena. Virtually all countries have produced general reports on aging but seldom have they produced any reports that explicitly identify rural aging phenomena. The only real constraints or obstacles result from not collecting data in rural areas or from collecting too little data from these areas. One way to correct this problem is to increase the sample size of rural older populations in national studies (Bull, 1993). A second way to address this lack of data is to use professional training programs to collect data in under-represented areas (Coppin, 2000).

Oversampling in smaller provinces or states will generally be needed to inform rural aging policy development. A similar point has been made by Bull (1993) and Havens (2000) in reference to analyses being restricted to all rural older people (age 60 or 65 and over) rather than looking for inter-age differences (e.g., are those aged 65 to 74 the same as those aged 85 to 94). It is important to address the diversity among and within the older rural population: for example, differences among those living in towns and villages, in urban satellite areas, farm and non-farm dwellers, and those in remote areas (Bull, 1993; Keating, 1991; Havens, 2000); among young, middle and oldest-old; those who are more/less affluent; and ethnic minorities (e.g., aboriginal elders).

There is also a need for studies at the community level relative to older people's roles, contributions, resource needs (Bull, 1993; Manitoba Health 1973, 1976, 1985) and the mix and use of formal and informal systems of care (Keefe, 1999). The opportunities to develop studies of care may be substantially enhanced by integrating survey and administrative data (Havens, 1996). Mounting studies that include action-oriented demonstration projects of a participatory nature at the rural community level (Keating, 1991; Racher, et al., 1997) will further expand our understanding of rural aging phenomena. We also need studies of the abilities of rural older people to perform the Basic Activities of Daily Living (ADL) and instrumental Activities of Daily Living (IADL) to determine whether there are differences in performance between rural and urban, farm and non-farm rural, remote elders, etc. (Keating, 1991; Havens and Hall, 2001). The program and policy implications of the latter issue are substantial and especially pertinent in the developing countries (Havens, 2000).

Finally, while we do not have "databases" of qualitative data in the same way as those that have been discussed, here we need qualitative studies. Qualitative studies can identify how older people themselves define independence, what strategies they use to main-

tain independence, and how these differ among subgroups of the rural elderly (e.g., native elders, farmers, caregivers, widows in small towns, etc. [Keating, 1991; Racher, 1996; Keefe, 1998]). Keating (1991) and Keefe (2000) have pointed out that we need qualitative approaches to studying rural ideologies and their impact on rural aging.

Efforts to expand the use of existing data will require more willingness to explore existing databases to produce secondary analyses of rural phenomena, and especially rural aging phenomena. This may require mounting lobbying efforts with research funders to convince them that secondary analysis is valuable and that rural aging is a legitimate area of investigation. The issues identified previously may convince funders and policy-makers of the value in analyzing existing data to enhance our understanding of rural aging. But perhaps the most important point that was made in each presentation is the necessity not to aggregate data prematurely.

The premature aggregation of raw data will preclude all but the most simplistic analyses of rural aging phenomena. This is partially a data collection issue as it relates to determination of sample size. However, even if the data were collected in sufficient quantity, unless researchers can access the raw data before it is aggregated, most of the studies described would not be possible. This is particularly problematic as premature aggregation of data may lead to inaccurate policy decisions, especially as these relate to the subgroups identified as important to our understanding of rural aging phenomena.

Recommendations

By the end of the workshop, the participants were convinced that finding and using data on rural aging are two different processes, that they face different obstacles and that the solutions are likewise different. As a result, the recommendations are diverse as they attempt to capture the breadth of this diversity.

- Explore, more systematically, the demographically relevant information available from agricultural censuses and all specialized national data sources, which can help promote better coverage of demographic items in countries where this information is incomplete or nonexistent.
- Apply the concepts used in agricultural censuses, such as size and other techno-economic characteristics of holdings and types of farming, in other data

collection efforts that focus on rural older people, such as household surveys and ethnographic studies, to increase their ability to reflect the complex reality they attempt to portray.

- Where appropriate and feasible, establish database linkage between agricultural censuses and other population data sets, such as general population censuses (Statistics Canada, 1996), household surveys, demographic registration systems, and geo-reference (GIS) data systems.
- Sensitize specialists and policy-makers dealing with rural demographic aging to the information potential of agricultural censuses and to the use of agricultural census statistics for decision making and for monitoring government policy and performance relative to rural aging.
- Develop standard definitions of rural populations that are not simply a residual category of the population that is not urban.
- Involve nongovernmental organizations (NGOs) in lobbying to increase the sample size of rural older populations in national studies and in collaboration with governments in securing oversamples in smaller provinces or states to inform rural aging policy development.
- Lobby to secure adequate research funding for research that employs secondary data analysis by convincing funders of the legitimacy of this strategy.
- Do not aggregate data prematurely.
- Encourage the development of geographically accessible, secure Census Research Data Centers (or centers of other national statistical agencies) that enable legitimate researchers to access complete microdata sets, not just incomplete or administratively aggregated public use data sets.
- Broaden the scope of data sources by including data that are relevant to aging but not necessarily specific to aging.
- Add training in data collection, both primary and secondary data analysis and the use of data to all relevant professional training programs.
- Develop creative field assignments or practicums that will increase the coverage or focus of data on rural aging populations.
- Identify the differences among rural communities: those living in towns and villages as opposed to those in urban satellite areas, farm and non-farm rural elders, or those in remote areas; young, middle and oldest-old; those who are more/less affluent; ethnic minorities (e.g., aboriginal elders), etc.
- Several directions for additional or new research were identified, including: older people's roles, con-

tributions, resource needs; the mix and use of formal and informal systems of care; the abilities of rural older people to perform the ADLs and IADLs; action-oriented participatory demonstration projects; and qualitative studies that identify how older people define and maintain independence, and that identify rural ideologies and their impact on rural aging (including analyses of identified subgroups).

References

- Bienvenue, RM, & Havens, B. (1986). Structural inequalities, informal networks: a comparison of native and non-native elderly. *Canadian Journal on Aging*, 5(4), 241–248.
- Bollman, R, & Biggs, D. (1992). *Rural and small town Canada: An overview*. Ottawa, Canada: Statistics Canada.
- Bull, CN. (1993). *Aging in rural America*. Newbury Park, CA: Sage Publications.
- Bull, CN. (1999, May). *Rural aging in the United States*. Paper presented at Expert Group Meeting, Shepherdstown, WV.
- Chappell, N, Strain, L, & Blandford, A. (1986). *Aging and health care: A social perspective*. Toronto, Canada: Holt, Rinehart and Winston.
- Chappell, N, Penning, M, Havens, B, Everitt, JC, Annis, RC, & Klein, H. (1998). Evaluating support services to seniors and partnering in research. *Home Care Provider*, 3(1), 30–7, 46.
- Coppin, AK. (2000, June). *Using health data on rural aging in Venezuela*. Paper presented at the First International Rural Aging Conference, Charleston, WV.
- Hall, M. (1997). *Annotated bibliography of papers, articles and other documents resulting from the aging in Manitoba 1971, 1976, 1983, 1990, 1996 cross-sectional and panel studies*. Winnipeg, Canada: University of Manitoba, Department of Community Health Sciences.
- Hall, M, Havens, B, Black, C, et al. (1997). *Aging in Manitoba study 1996: A twenty-five year longitudinal study, Technical Report*. Winnipeg, Canada: University of Manitoba, Department of Community Health Sciences.
- Havens, B. (1996). Aging in Manitoba: Integrating survey and administrative data. In *Health Survey Research Methods: Conference Proceedings* (pp. 197–202). Hyattsville, MD: US Department of Health and Human Services.
- Havens, B. (2000, June). *Finding and using data on rural aging, an overview: An international perspective*. Paper presented at the First International Rural Aging Conference, Charleston, WV.
- Havens, B, & Hall, M. (2001). Social isolation and social loneliness of older women. *Indian Journal of Gerontology*, 14(1&2), 126–144.
- Keating, NC. (1991). *Aging in rural Canada*. Toronto, Canada: Butterworths.
- Keefe, J. (1998). The likelihood of combining employment and helping elderly kin in rural and urban areas and among Canadian regions. *Canadian Journal of Regional Science*, 20(3), 367–387.
- Keefe, J. (1999). *The nature of caregiving by community context: A profile of informal caregiving in Canada's rural & urban areas*. Ottawa, Canada: Health Information Systems, Health Canada.
- Keefe, J. (2000, June). *Using special surveys: benefits & challenges of analyzing rural data in Canada*. Paper presented at the First International Rural Aging Conference, Charleston, WV.
- Manitoba Health (1973). *1971 Aging in Manitoba: Needs and resources to meet the needs of elderly Manitobans* (Vols. 1–9). Winnipeg, Canada: Queen's Printer.
- Manitoba Health (1976). *Aging in Manitoba: Comparison of needs and resources, 1971 and 1976*. Winnipeg, Canada: Government of Manitoba.
- Manitoba Health (1985). *1983 Aging in Manitoba: Needs and resources to meet the needs of elderly Manitobans* (Vols. 1–8). Winnipeg, Canada: Manitoba Health.
- Norris, D. (2000, June). *Issues in producing data for rural areas: A Canadian perspective*. Paper presented at the First International Rural Aging Conference, Charleston, WV.
- Norris, D, & Johal, M. (1992). Social indicators from the general social survey: Some urban-rural differences. *Rural and Small Town Canada* (pp. 357–368). Ottawa, Canada: Statistics Canada.
- Racher, F. (2000, June). *Searching for and using rural data*. Paper presented at the First International Rural Aging Conference, Charleston, WV.
- Racher, F. (1996). *The challenge of coping: Frail rural elderly couples identify resources required to maintain their independence*. Unpublished master's thesis, University of Manitoba, Canada.
- Racher, F, Everitt, J, & Annis, RC. (1997). *Partnerships for the reintegration of the fragile elderly: Phase I report*. Brandon, Canada: Westarc.
- Rathbone-McCuan, E, & Havens, B. (Eds.). (1988). *North American elders: United States and Canadian perspectives*. New York, NY: Greenwood Press.
- Statistics Canada. (1999, April 26). 1996 Agriculture-population database linkage. *The Daily*, 1–3.
- Statistics Canada and the Office of Gerontological Studies, McMaster University. (1996). Exploring new aging-related databases, theme c. Thirteenth Annual McMaster Summer Institute on Gerontology.
- Stloukal, L. (2000, June). *Using agricultural census data: Pros & cons*. Paper presented at the First International Rural Aging Conference, Charleston, WV.