

## **Appendix II**

### **Relationships Between Statistics Canada and OECD Based Definitions of Rural**

The definitions of "rural" employed by Statistics Canada and the OECD have been outlined in Chapter 2. At first glance, these definitions of rural appear to be very different. In fact, it can be shown that there is a very close association between the two that will prove useful in the future in the application and analyses of rural health indicators.

In concluding Chapter 2, we have recommended that when health or health-related databases are examined to determine whether they can provide useful information for generating health indicators for rural Canada the first step is to determine whether the records of those databases can be assigned to "communities" and/or "regions". Both of the Statistics Canada and OECD definitions of rural are applied to these geographical units. And, in Canada, the standard geographical units employed in the Census of Canada are such that: communities can be equated with Census Consolidated Subdivisions (CCSs) and/or groupings of Census Subdivisions (CSDs); and, regions can be equated with Census Divisions (CDs). In many provinces, the latter are equivalent to major administrative divisions or counties.

## 1. Communities

Recall that the OECD classification scheme begins by categorizing communities as rural if their population densities are less than 150 persons per square kilometre and urban otherwise.

Statistics Canada classifies Enumeration Areas on the basis of both population density and geographical site, relative to their locations within or outside Census Metropolitan Areas (CMAs) or Census Agglomerations (CAs). Five urban/rural categories are employed: 1 - urban core, 2 - urban fringe, 3 - rural fringe, 4 - urban areas (small towns) outside CMAs/CAs, and 5 - rural areas outside CMAs/CAs.

To examine the community-level relationships between these two classification schemes, each of the 2,607 CCSs (1996 census year) were identified as rural or urban based on the OECD scheme. As an alternative scheme, based solely on Census of Canada information, each of these CCSs were classified based on the proportions of their population living in EAs having specific urban/rural code characteristics. The communities were classified in the following sequence:

Label	Population Proportion	Characteristics
1	100%	in small towns and rural areas outside CMAs/CAs (i.e. 100% in EAs classified as urban/rural codes 4 and 5).
4	0%	in small towns and rural areas (0% urban/rural codes 4 and 5); alternatively expressed as 100% in urban/rural code areas 1, 2, and 3.
3	100%	in rural fringe areas (i.e. 100% urban/rural code 3).
5	100%	in urban core and urban fringe areas (i.e. 100% urban/rural codes 1 and 2).
2		all other CCSs (i.e. CCSs not otherwise classified by the scheme above)

Crosstabulating (Table II.1) the CCSs using these two classification systems begins to highlight the relationships between the OECD and Statistics Canada definitions of rural.

**Table II.1**

**Crosstabulation of the numbers of communities in Canada based on the OECD definition by the numbers of communities classified using 1996 population proportions by Statistics Canada urban/rural codes. Figures in parentheses give the total numbers of Canadians found within these categories.**

<b>OECD Classes</b>	<b>Population Proportion Classes</b>				
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>Rural</b>	2089 (5,835,605)	68 (1,816,254)	140 (377,364)	153 (3,010,805)	-
<b>Urban</b>	2 (16,008)	4 (273,103)	-	104 (7,218,062)	47 (10,301,997)
<b>Totals</b>	2091 (5,851,613)	72 (2,089,357)	140 (377,364)	257 (10,228,867)	47 (10,301,997)

With the possible exception of Population Proportion Class 2, the relationship between the two classification schemes is very straight forward:

Class 1, based on population proportions by Statistics Canada urban/rural codes, consists of 2091 CCSs that would readily be considered as part of rural and small town Canada. With the exception of two CCSs, they would also be considered rural using the OECD classification scheme. The two CCSs that do not seem to fit this characterization are the Privost (Quebec) and Wasaga Beach (Ontario) areas. Both, however, are similar to the majority 2089 CCSs in that their entire populations are found in small town/rural areas (Statistics Canada urban/rural codes 4 and 5). Indeed, the bulk of their populations are classified as living in rural areas (code 5): 86.4% in the case of Privost and 100% for Wasaga Beach. The difference is simply due to the fact that the geographical extent of these areas are small relative to their populations, producing population densities of 213 and 156 persons per square kilometre, respectively. People familiar with these two areas would most likely identify them as rural, in accordance with the OECD scheme. One might label this group as "ultra-rural".

At the other end of the spectrum are the "ultra-urban" areas. The 47 CCSs found in Class 5 and considered to be urban using the OECD scheme are made up entirely of urban core and urban fringe EAs, Statistics Canada urban/rural codes 1 and 2. These communities are our large urban centres of Vancouver, Toronto, Montreal, etc.

In the centre of this spectrum, Class 3, we have 140 CCSs that are rural, with no disagreement between the two classification schemes. Their population densities are less than 150 persons per square kilometre, as is the case for Class 1. What distinguishes them is the fact that their entire populations are located in areas classified as Statistics Canada urban/rural code 3. Effectively, these are the primary "rural fringe" areas of Canada, rural areas adjacent to and found within the boundaries of the more urban areas of Canada that we call Census Metropolitan Areas or Census Agglomerations.

Urban areas dominate Class 4. They have the same characteristic as the "ultra-urban" Class 5

communities, no one living in Statistics Canada urban/rural code areas 4 or 5. Unlike Class 5 communities, however, small proportions of the populations of these "urban" areas live in rural fringe (urban/rural code 3). The more rural of these urban areas (n=153) have population densities of less than 150 persons per square kilometre (hence the rural classification based on the OECD scheme) and, on average, 61% of their populations are located in urban core and urban fringe areas. The remaining 104 communities are more urban in terms of their higher population densities and the fact that, on average, 90% of their populations are located in urban core and urban fringe areas.

Very stringent numerical cutoff values (of population proportions distributed by Statistic Canada urban/rural codes) have been employed in the categorization scheme that produced the four classes of communities just described. It would not be surprising, therefore, to find communities that did not meet these criteria. What is surprising is the fact that so few communities fall into this "not otherwise classified" group. These 72 communities are the only ones with at least some proportion of their populations in each of the five Statistics Canada urban/rural areas. The majority (n=68) are low population density communities with characteristics most similar to rural and small town Canada; and the remainder (n=4) would likely be considered by most people to be "urban" given their high population densities (hence the OECD urban designation) and the fact that their "mixed urban core/urban fringe and rural" populations range from 78% to 95%.

## **2. Regions**

The primary OECD classification for regions is extremely simple:

- 1) Predominantly urban - less than 15% of the population of the region lives in rural communities (i.e. communities with a population density of less than 150 persons per square kilometre)
- 2) Intermediate - between 15 and 50% of the population of the region lives in rural communities.
- 3) Predominantly rural - greater than 50% of the population of the region lives in rural communities.

As census divisions (regions) in Canada can be very large and diverse in terms of their community make-up based solely on population densities (OECD scheme), it is possible for a CD to be composed of communities representing only one or possibly all of the five classes (ultra-rural through to ultra-urban) identified above that are based on their population proportions in the Statistics Canada urban/rural classification scheme. To see how these can be associated, each of the 288 CDs (1996 census year) were coded in terms of the category of community that had the largest population:

- 1) Group 1 - largest proportion of the people in the region live in Class 1 (ultra-rural) communities.
- 2) Group 2 - largest proportion of the people in the region live in Class 2 (mixed urban core/urban fringe and rural) communities.
- 3) Group 3 - largest proportion of the people in the region live in Class 3 (rural fringe communities).
- 4) Group 4 - largest proportion of the people in the region live in Class 4 (urban)

communities.

- 5) Group 5 - largest proportion of the people in the region live in Class 5 (ultra-urban) communities.

A crosstabulation of the regions using this grouping with that of the primary OECD classification scheme is provided in Table II.2.

**Table II.2**

**Crosstabulation of the numbers of regions in Canada grouped by type of community having the largest proportion of the population against the number of regions using the OECD scheme. Figures in parentheses give the total numbers of Canadians found within these categories.**

<b>Groups Predominant Community Type</b>	<b>OECD Classification</b>		
	<b>Predominately Urban</b>	<b>Intermediate</b>	<b>Predominately Rural</b>
<b>Ultra-rural</b>	-	-	156 (4,503,575)
<b>Mixed Urban core/fringe and rural</b>	-	3 (383,188)	30 (1,885,608)
<b>Rural Fringe</b>	-	-	4 (84,084)
<b>Urban</b>	14 (5,407,579)	27 (4,380,442)	36 (2,612,488)
<b>Ultra-urban</b>	8 (6,915,123)	10 (2,677,111)	-
<b>Totals</b>	22 (12,322,702)	40 (7,440,741)	226 (9,085,755)

In 1996, just over 9 million Canadians (31.5%) lived in 226 rural regions (CDs) as defined by the OECD rural classification scheme. In 156 of these regions, the majority of the population lives in communities that would be considered as part of rural and small town Canada. Indeed, in 118 regions of this groups of 156, 100% of the population are located in EAs that would be classified as urban (small town) or rural using the Statistics Canada urban/rural codes 4 and 5. And in the remainder of this group of regions the proportions of people living in communities of this type ranges from 49.3% to just under 100%. Only 4 regions are dominated by populations living in rural fringes areas alone. The remaining groups of regions have increasing proportions of their populations located in urban and urban core/fringe areas but the majority of these communities are small town or rural in the sense that their population densities are less than 150 persons per square kilometre.

At the other extreme are those 22 regions which are dominated by relatively large or very large urban areas. Some of these regions (especially those in Group 4) do contain communities outside CMAs/CAs but they are easily recognized as urban regions - Toronto, Montreal, Vancouver, etc.

Given the classification schemes that have been employed, it is much more difficult to provide simple descriptions of the 40 regions that are characterized as "Intermediate" using the OECD approach. Suffice it to say that these are the regions with increasing numbers of urbanized communities (i.e., Statistics Canada urban/rural codes 1 through 3) interspersed with more rural communities (i.e., Statistics Canada urban/rural codes 4 and 5).

### **3. Summary**

When health and health-related databases allow for the assignment of records to sub-provincial geographical units the first concern should be whether they can be assigned to communities (CCSs) or regions (CDs). At that stage of evaluating a database the issue is not whether those geographical units are "rural" or "urban".

Then, the OECD classification can be employed because of its simplicity and the fact, as demonstrated above, one does not have to fear losing information because the OECD designations are associated with the information provided through the Statistics Canada urban/rural coding system.

Finally, the Statistics Canada urban/rural population distributions can be employed to refine the coarse OECD designations to provide more detailed community and/or regional characteristics.