



Catalogue no. 11-522-XIE

**Statistics Canada International Symposium
Series - Proceedings**

**Symposium 2004: Innovative
Methods for Surveying
Difficult-to-reach Populations**

2004



ABORIGINAL DATA INITIATIVE – SURVEY COMPONENT

Geoff Bowlby, Johanne Denis, Éric Langlet, and Denis Malo¹

ABSTRACT

Statistics Canada has been asked to develop a “blueprint” for a comprehensive Aboriginal statistical program that would meet the information needs of Aboriginal groups, governments and other stakeholders. This two year project includes the development of a survey, or suite of surveys, that can build upon the major sources of Statistics Canada information on Aboriginal people already in place, the Census and the Aboriginal Peoples Survey (APS). This paper will discuss challenges with designing on-going surveys for all Aboriginal groups: Inuit, Métis and North American Indians, including both the off-reserve and on-reserve populations. In particular, the following will be examined: identification/screening of the target population, heterogeneity of the on-reserve component and associated challenges in survey design, surveying the on-reserve population between censuses, remoteness, response burden and engagement of Aboriginal communities and organizations.

KEYWORDS: Aboriginal Population; Dispersed Population; Remoteness; Response Burden.

1. INTRODUCTION

In recent years there has been increased focus by both governments and Aboriginal organizations on the need for more and better quality data on Canada’s Aboriginal population. The Aboriginal Data Initiative (ADI) was a two year project to assess the feasibility of providing integrated social and economic statistics and outcome measures in various domains. This paper describes the work of the survey team of the ADI. Over 18 months, much has been accomplished: the first household survey on reserves between two censuses, the pilot Survey of People Living on Reserves (SPLORES), was conducted on five reserves across the country. Equally important, a plan for an on-going program of household surveys to be conducted on and off-reserve, as well as in Canada’s North has been developed. Each of these recent developments is described below.

2. THE ABORIGINAL POPULATION IN CANADA

Canada’s Aboriginal population is large and growing. During the 2001 Census, almost one million people or 3.3% of the Canadian population identified themselves as an Aboriginal person. About two-thirds of these people were North American Indian (half of whom lived on-reserve), while 30% were Métis and 5% were Inuit. Overall approximately 70% of the Aboriginal population lived off-reserve. Between 1996 and 2001, there was considerable growth (22.2%) in the number of people identifying themselves as an Aboriginal person². About half of this growth can be attributed to demographic factors (higher birth rate and longer life expectancy), while the rest was due to people who had not reported an Aboriginal identity in previous censuses, who now consider themselves among the native population.

While the Aboriginal population is getting larger, statisticians trying to gather data on Aboriginal people are challenged by the fact that the population is dispersed throughout the country and in some instances, also located in very remote areas. According to the 2001 Census, the largest number of Aboriginal people lived in Ontario and British Columbia. In terms of shares of the population, the largest proportion of Canadians who reported an

¹ Geoff Bowlby and Johanne Denis, Household, Family and Social Statistics Division, Jean Talon Building, 7th floor, Tunney’s Pasture, Ottawa, Ontario, Canada, K1A 0T6; Éric Langlet and Denis Malo, Social Survey Methods Division, R.H. Coats Building, 15th floor, Tunney’s Pasture, Ottawa, Ontario, Canada, K1A 0T6.

² The Aboriginal identity population is defined by 3 questions in the Census: 1/ identity question, e.g. “Is this person an Aboriginal person, that is ...”; 2/ Membership of Band or First Nation; 3/ Treaty or Registered Indian.

Aboriginal identity lived in the Western provinces and Northern territories. In Manitoba and Saskatchewan, one in eight people was Aboriginal, while in the North, the share was 85.2% in the Nunavut, 50.5% in the Northwest Territories and 22.9% in the Yukon.

There are a total of 630 First Nations or Indian Bands in Canada governing about 800 occupied reserves and settlements. The average Aboriginal population in an Indian reserve or settlement is about 250 with many located in remote or Northern areas.

3. THE ABORIGINAL DATA INITIATIVE

3.1 Current sources of data on Aboriginal people

Historically, the major source of data on the Aboriginal population has been the Census of Population conducted every five years. While a rich data source, the Census data on the Aboriginal population has been limited by the refusal of some reserves to take part in the Census (77 reserves in 1991, 77 in 1996 and 30 in 2001). In 1991 and 2001, the main Census data were supplemented with a postcensal Aboriginal Peoples Survey (APS). These postcensal surveys provided considerable data, for Métis, Inuit and North American Indians, including both the off-reserve and the on-reserve populations.

The on-going program of household sample surveys has not included the on-reserve population and although the off-reserve population has technically been covered by sample surveys, until recently data has not been available from these surveys, mainly due to insufficient sample sizes, or the lack of appropriate questions to identify Aboriginal respondents. The introduction of the biennial Canadian Community Health survey (CCHS) with its large sample size has allowed for the production of a limited amount of health data for the off-reserve Aboriginal population. More recently, questions were added to the monthly Labour Force Survey (LFS) to identify the Aboriginal population and an investigation of what increased sample size would permit the production of data on the Aboriginal population has begun. The provinces of Alberta and British Columbia have funded a targeted increase in sample size and data on labour market and education for the off-reserve population of Alberta have been released. Currently this work to expand data on Aboriginal people has been limited to the four Western provinces and the North where the Aboriginal population is proportionately larger.

In the end, aside from the LFS and CCHS off-reserve data, the data available on Aboriginal people comes every five years with the Census, or through ad hoc sources such as the APS.

3.2 Filling the gap on Aboriginal data: the Aboriginal Data Initiative

The demand for data on Aboriginal people has grown considerably in recent years. As a result of the increasing demand and relative lack of supply, Statistics Canada was mandated by the Federal government in 2003 to study the feasibility of an on-going, integrated system of statistics on Aboriginal people. This feasibility study, called the Aboriginal Data Initiative (ADI), consists of four major activities:

- i. Consultation – wide ranging discussions with Aboriginal people and organizations, federal, provincial and territorial governments;
- ii. Development of statistical training and capacity building – to look at improving and expanding the suite of statistical training programs available to Aboriginal people;
- iii. Data development – the design of tools and methodologies for on-going survey vehicles off and on reserves, for First Nations public sector statistics and Aboriginal population estimates and projections;
- iv. Testing of the proposed designs and methodologies.

4. THE SURVEY COMPONENT OF THE ADI

As described above, the data development activity is made up of three components, one of which is the development of methodologies for on-going survey vehicles on and off reserves. More specifically, the survey component team was mandated to:

- Determine an appropriate design for a suite of surveys to be carried out in a cost effective and efficient manner for all Aboriginal groups: Inuit, Métis and North American Indian, including both the off-reserve and on-reserve populations;
- Determine the survey content and frequency of collection;
- Identify a meaningful grouping of reserves to be used for sampling and dissemination purposes (e.g. data to be produced at a higher level than the reserve level);
- Determine how to adapt the current collection infrastructure across Canada to allow for an on-going survey program for Aboriginal people;
- Conduct a demonstration survey in a limited number of First Nation communities.

To meet this mandate, the survey component team divided their work into three main activities. First, a data needs assessment was conducted. While this was done with various federal departments and some provincial governments, just as Statistics Canada was about to engage Aboriginal groups in a dialogue on data needs, the Prime Minister announced the creation of an Aboriginal Report Card (ARC), a series of measures that would be monitored on a regular basis. The ARC process involved consultation with Aboriginal groups, and to avoid an overlapping consultation, Statistics Canada did not engage Aboriginal people in discussions on their data needs. There was extensive consultation, however, with Aboriginal people on the idea of an expanded Aboriginal statistics system.

Secondly, the survey team developed and conducted a demonstration survey, the Survey of People Living on Reserves (SPLOR), described below. Finally, an on-going household survey system was developed. This system is described in section 6.

5. THE SURVEY OF PEOPLE LIVING ON RESERVES

The Survey of People Living on Reserves (SPLOR) was the first household survey designed for the reserve population between censuses. Developed and tested over the winter and spring of 2004, SPLOR was an omnibus survey, designed to replicate what might be conducted as a part of an on-going survey system. While testing questionnaire content, methods and procedures, SPLOR was also intended to produce data, data that would be provided back to participating reserves. Lessons learned from this process were also to be used as parameters in the development of a proposed on-going household survey program on reserves (see section 6).

5.1 Methodology

Over the late spring and summer of 2004, Statistics Canada's regional Aboriginal Liaison Officers began recruitment of reserves for SPLOR. The reserves selected for SPLOR were chosen to get a mix of communities in different provinces, as well as a mix of remoteness and socio-economic levels. Originally, it was hoped that more reserves would participate, including all reserves in Southern Alberta's Treaty Seven area, but in the end, five First Nations communities agreed to the survey: Millbrook (Nova Scotia), Christian Island (Ontario), Wasagamack (Manitoba), Montreal Lake (Saskatchewan) and Siksika (Alberta). Surprisingly enough, this "non-probabilistic" selection of reserves led to a sample that met the targeted diversity of communities relatively well.

The target population of SPLOR consisted of adults, 15 years of age and over, living in private dwellings on each participating reserve. Aboriginal and non-Aboriginal people were targeted.

Since SPLOR was to be conducted 3 years and 4 months after the 2001 Census, the Census database was judged to be obsolete to be used as a sampling frame. Moreover, in the perspective of an ongoing survey program, the Census database would be out of date during the intercensal period. Instead, an up-to-date listing of dwellings would need

to be constructed on each selected reserve before sample selection. This was the approach taken for SPLOR. From this listing, a sample of dwellings was selected followed by a sample of adults from each selected dwelling (e.g. two-stage random sampling). Several methods were identified for the listing process. It was decided to assess two listing processes on each reserve: a) an updating of the 2001 Census listing of dwellings; and, b) an independent listing. The Census listing was finally used and updated for two reserves. The other reserves were re-listed independently after listers judged that too many changes would have been needed to update the Census listing.

The sample selection of dwellings was performed by the data collection manager (from Statistics Canada Regional Office) assisted by the local senior Aboriginal interviewer on each reserve. The selection was performed manually using a systematic sampling approach. Procedures were then used to select up to four adults in each selected dwelling (based on the number of adults per dwelling). The latter sampling stage was performed by local interviewers during data collection.

5.2 Results and lessons learned

In many regards, SPLOR was a success. For the most part, the listing and sample selection went well, and collection was quick and efficient. The response rates were very high, ranging from a low of 91% to a high of 99%. However, in the case of an on-going survey program, lower response rates might be expected given that the level of support and follow up during collection might not be as strong.

Part of the success lay in the use of local Aboriginal interviewers. In each community, Aboriginal interviewers were hired and trained to conduct the survey, supervised by newly hired senior interviewers, also from the community. In debriefing sessions held with interviewers, they agreed that the presence of local interviewers made respondents feel at ease.

For all the success of SPLOR, lessons were learned as well. In one community, retention of interviewers was a problem. When senior people in the Band office became involved, retention and productivity of interviewers improved, highlighting the importance of involving the Band office in hiring.

Another important lesson was learned about the communication protocol with reserves. There was some miscommunication about the selection of “choice modules”. Patterned after the approach taken with the CCHS, part of getting community “buy-in” was the offering of 5 minutes of content. From a suite of modules, each community was to select their content, and thereby “customize” their community’s survey. There were two problems with this. First, it left the false impression in some communities that Statistics Canada and the community would partner to co-design the full questionnaire. Also, two of the five communities did not select their modules in time for the survey. Rather than risk non-participation in the survey, all of the “choice modules” were asked in these two communities. As a result of this experience, it was decided that the risks of miscommunication were too high to recommend questionnaire customization for the on-going program.

Finally, while response rates at the reserve level were well above expectations, the selection of reserves to participate in the survey was very labour intensive and did not reach the targeted 20 reserves established at the beginning of the process. Again a strong communication protocol is essential for the success of an on-going survey program on reserves.

Overall, the intercensal procedures used to establish listing of dwellings and the manual sample selection on reserves were a success suggesting that an intercensal survey on reserves is possible.

6. THE STRATEGY FOR AN ON-GOING SURVEY PROGRAM

Consideration of possible survey options needs to focus separately on the off-reserve and on-reserve Aboriginal populations. In the case of the off-reserve population it is thought that any expansion of data would have to be done through the conduct of a postcensal survey (as in 1991 and 2001) and through the use of larger existing surveys possibly with a targeted increase in sample size in the intercensal period.

The on-reserve population provides very different challenges. In view of response burden and cost, it is clearly not possible to simply extend existing surveys to include the reserve population. An alternative being considered is to develop an omnibus survey that might include a core of socio-economic information and could cover selected special topics³, perhaps on a rotating basis.

The following provides more details on each component.

6.1 The reserve component

From consultations with Aboriginal people through the ADI process and from the experiences of SPLOR and APS, it was learned that a nation-wide program on reserves would not be feasible in the short term – the support on reserves for such a large scale program across the country does not appear to be there. As a result, provincial, territorial or national level estimates of the reserve population could not be produced in the short term with an on-going system. As well, the consultation has clearly indicated that Aboriginal bands require data at a local level, e.g. reserve or band level. A number of federal departments have also expressed interest in community level data as a means to evaluate their various programs. For the longer term, one of the major issues will be the geographic detail at which to perform sampling and data dissemination given the heterogeneity of the reserve population (e.g. homogeneous within reserves, heterogeneous between reserves).

In the short term, progress is likely to be gradual, leading to a progressive approach for the reserve component of the ADI. Initially, it is envisioned that a survey be conducted with “large” reserves that are willing to participate (“large” to be defined below). Gradually and progressively, partnerships would be built allowing the production of estimates for meaningful *groupings of reserves* (for ex. Tribal Council, Treaty level). In the longer term, this strategy would allow province level estimates to be produced and eventually national level estimates as well.

Censal period

With these working assumptions in mind, the plan for an on-going program starts in 2006, when the Census is conducted, and data are produced for reserves on the topics of language, mobility, housing, education, work, unpaid household activities and income. At the centre of the on-going survey program is an omnibus questionnaire, perhaps similar to that used for SPLOR. However, in 2006, there would seem to be little point in conducting another large-scale omnibus survey on reserves. Reserve profiles could be produced using the Census data from that year.

Supplementing this reserve-level data from the Census could be data for targeted groupings of reserves on the topics of health (an important topic not covered by the Census) and a special topic. The target population would consist of people (children and adults, Aboriginal and non-Aboriginal) living in private dwellings on reserves. A two-stage selection of the sample would occur in 2006. A take-all of reserves over a population threshold in given groupings of reserves would form the first stage, followed by a simple random sample of adults and children from the Census frame in these large reserves. For the smaller reserves in a grouping of reserves, a sample of reserves would first be performed, followed by a simple random sample of adults and children within the selected reserves. Again, these groupings would not cover a whole province, at least at the beginning of the survey program.

Intercensal period

During the intercensal period, reserve profiles would be produced for reserves that have a population of over 500 people⁴ and show interest in participating – a potential list of about 200 communities covering 70% of the reserve

³ Special topics could include literacy, disability, victimization, topics which are slow to change and require more questions to produce indicators than a basic omnibus survey with core indicators like highest level of education, employment status, etc.

⁴ Given some sampling requirements, it was deemed that a population threshold of 500 people would allow a representative sample to be selected to produce community level estimates, while controlling response burden and avoiding confidentiality problems.

population (excluding the population of 30 reserves that refused to participate in the 2001 Census). As was the case with SPLOR, there would be no list of individuals available for the 2007 to 2010 period, so listing of dwellings on reserves would be required. For each reserve, dwellings would first be selected, and then individuals within each dwelling would be randomly selected. In each of these large reserves, no more than one-half of the target population would be sampled. The survey vehicle, an omnibus survey designed to produce broad indicators of well-being, would be administered every year per reserve, or only once during the four year period. If the survey were to be conducted only once per reserve during the intercensal period, one-quarter of the 200 reserves would be surveyed each year.

An important year in the on-reserve plan is 2009. During that year, a second special topic survey would be administered on reserves. The data for the special topic would be produced only for groupings of reserves. Sample selection would then be three-stage: the reserve would be selected, followed by the dwelling, then the individual. Table 1 below provides an overview of the proposed approach.

Table 1: On-reserve survey plan, Canada 2006 to 2010

2006	2007	2008	2009	2010
Reserve profiles from the Census	Profiles for large reserves (New omnibus)	Profiles for large reserves (New omnibus)	Profiles for large reserves (New omnibus)	Profiles for large reserves (New omnibus)
NEW: Estimates for groupings of reserves* (Health module; Special topic I module; Children and youth module)			NEW: Estimates for groupings of reserves* (Special topic II module)	

* Estimates produced for some targeted groupings of reserves only.

6.2 The off-reserve component

The target population for the off-reserve component would consist of Aboriginal people (both adults and children aged 6 to 14⁵) living in private dwellings located:

- In municipalities with a high Aboriginal population;
- In Inuit communities;
- In Métis settlements;
- Outside of communities/municipalities/settlements.

Censal period

The Census offers a unique opportunity to identify the target population (“scattered and small”), by Aboriginal group and in relatively small infra-provincial levels. The Census is however limited by the fact that the questions used to identify Aboriginal persons are only asked to a sample of one in five households off-reserve.

During Census years, a sampling design can be built that would allow estimates to be produced for municipalities with a high Aboriginal population, for Inuit communities, for Métis settlements, for selected Census Metropolitan Areas, for the remaining urban/rural portion of each province and a national level; all of this for two Aboriginal groups, that is Métis and North American Indian. For the Inuit living outside communities (South), only national

⁵ Children 0 to 5 years of age would be covered by the Aboriginal Children’s Survey (Statistics Canada, 2003a).

estimates would be targeted. The proposed approach is in fact similar to the 2001 APS design (Statistics Canada, 2003b) where the Census database can be used directly to select individuals to participate in the survey.

The survey vehicle administered would depend upon the Aboriginal group the person belongs to, and where the person lives. A North American Indian module, Métis module, Northern module, or Inuit South module would be administered, along with the same health, special topic and children and youth modules administered on-reserve (see Table 2).

Intercensal period

During the intercensal period, much of the key education, health, income and work indicators could be produced by Aboriginal group using the LFS or CCHS, for a subset of provinces or groups of provinces, e.g. region level estimates⁶. An important year is 2009, when an omnibus survey with a special topic module (closely comparable to that administered on reserves) would be conducted. Using the LFS or CCHS survey, and possibly in combination with an independent area frame survey, the 2009 data would be available for North American Indians and Métis by province, territory and for Canada as a whole. Inuit data would be available for the four Inuit regions (Nunavut, Nunavik, Inuvialuit and Nunatsiavut) using an independent survey vehicle based on an area frame and independent listing.

Table 2: The off-reserve plan, Canada 2006 to 2010

2006	2007	2008	2009	2010
Census data at infra-provincial levels LFS - Limited geographical levels by Aboriginal group	LFS CCHS Limited geographical levels by Aboriginal group	LFS Limited geographical levels by Aboriginal group	LFS CCHS Limited geographical levels by Aboriginal group	LFS Limited geographical levels by Aboriginal group
NEW: Infra-provincial levels and targeted community levels (North American Indian, Métis, North or Inuit South module; Children and youth module; Health module; Special topic I module)			NEW: Estimates by province and Aboriginal group (Omnibus; Special topic II module)	

6.3 Using the Canadian Community Health Survey or the Labour Force Survey to identify the target population for the 2009 off-reserve survey

As stated in section 6.2, given their total sample sizes, the CCHS and the LFS are interesting alternatives in between censuses to produce Aboriginal data but both have their limitations in the level at which estimates can be produced. Potential increases in sample sizes could be envisioned but have to be weighed in terms of both cost and response burden. The following provides more details on each of these surveys.

The Canadian Community Health Survey

The CCHS is conducted every year with a larger sample of about 130,000 units surveyed every second year (odd years). The CCHS provides a wealth of health information combined with basic socio-economic data.

⁶ The LFS covers the adult population aged 15 and over while the CCHS covers the population aged 12 and over.

Investigations into using the CCHS as a survey vehicle for the 2009 off-reserve survey have revealed the need for CCHS to modify the question that identifies Aboriginal respondents. Combined into a question that is also used to identify ethnic/racial groups other than the Aboriginal population, CCHS produces an undercount of Aboriginal people when compared to Census counts⁷. Out of the 130,000 respondents surveyed during odd years, approximately 3,600 are adult Aboriginal people (e.g. Aboriginal people 15 years of age and over). Such a sample size would allow only limited precision, and provincial estimates of North American Indians and Métis would be limited to a subset of provinces.

In order to be able to produce reliable data by Aboriginal group at the provincial level, the CCHS sample would need to be increased. This could be done through targeted increases, e.g. in areas with high Aboriginal concentration. However, defining these areas is quite problematic. Apart from municipalities with a high concentration of Aboriginal people, it is very hard to target areas that would cover a significant amount of the targeted population. In fact, in most areas, the hit rate (the percentage of the sample that would turn out to be Aboriginal persons) would be quite low. This approach would not be cost efficient.

Using the CCHS sample of Aboriginal people as a base sample, even with the data limitations expressed above, would allow a merger of the wealth of health data with the proposed content for an omnibus survey, including a special topic. The ADI collection would however have to be conducted as an independent process from the CCHS, as opposed to a supplement approach. Conducting the ADI as a supplement would add an unacceptable burden on Aboriginal respondents and could jeopardize response rates of both CCHS and ADI.

The Labour Force Survey

Since April 2004, the LFS in the four Western provinces and in the North has been asking an Aboriginal identity question similar to that on the Census⁸. The LFS uses a rotating sample design whereby the sample is divided into six independent sub-samples (or rotation groups) with one sixth of these sub-samples rotating out and being replaced by another sub-sample each month. Selected households therefore remain in the LFS sample for six months. In any given LFS monthly sample, about 2,300 Aboriginal people are being identified (in Western provinces and the North), which would allow for similar levels of estimation as the CCHS.

In order to be able to produce reliable data by Aboriginal group at the provincial level, the LFS would first need to ask the identity question in every province. The sample size would then need to be increased. One way to achieve the sample increase would be to perform targeted increases as described above for CCHS. Again, the same limitations in terms of hit rates would be observed. Another way to meet the sample size requirements would be to combine a number of rotation groups over time in order to generate a large enough sample of Aboriginal persons. This would be achieved by combining active rotation groups with a number of groups that have rotated out of the LFS sample (also called “rotate out”). There are problems with this approach, the first being that the off-reserve population is highly mobile, so tracing the “rotate outs” sample might be difficult. As well, the changing of Aboriginal identity from one period to the next could cause problems. While some people who may not have reported themselves as having an Aboriginal identity during the LFS would be missed, others who initially identified with being Aboriginal in the LFS may not see themselves that way by the time they are contacted for the 2009 survey.

Another option being discussed is the possibility of conducting independent surveys in communities of high Aboriginal concentration of Aboriginal people, to complement the CCHS or LFS sample. In effect, these independent surveys would administer the same survey vehicle to “top up” the sample pulled from the LFS or CCHS. This approach would however have limitations in terms of content, especially on the CCHS side where the health information collected with the ADI would be more limited than what would have been collected with the CCHS.

⁷ Idem, footnote 2.

⁸ Idem, footnote 2.

7. CONCLUSION

This recommended strategy for an on-going survey program would allow for major improvements to the statistics available on the Aboriginal population. The program would provide for more frequent and timely data of higher quality, as well as a greater variety of the type of data available, including the production of basic indicators to monitor Aboriginal well-being. The progressive approach for reserves will mean a general build-up of support in First Nations communities.

REFERENCES

Statistics Canada (2003a), "Aboriginal Children's Survey – Feasibility Study", Special Surveys Division, Statistics Canada, September 2003.

Statistics Canada (2003b), "2001 Aboriginal Peoples Survey: Concepts and Methods Guide", Catalogue no: 89-591-X1E.