Evaluation of the Rapid Risk Factor Surveillance System (RRFSS) Provincial Sample Pilot Project

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Author
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Recommended Citation
In 2011, The Rapid Risk Factor Surveillance System (RRFSS) implemented a pilot project to collect a provincial sample that included data from all 36 health unit areas in Ontario. An evaluation of the Provincial Sample Pilot Project (PSPP) was undertaken, supported by Locally Driven Collaborative Project funding through Public Health Ontario. The objectives of the evaluation were to describe the costs of the RRFSS provincial sample, to determine if the RRFSS provincial sample provides comparable provincial estimates to other sources of provincial data, to evaluate the implementation and impact of the pilot, and to determine the potential for implementing the provincial sample as an ongoing part of RRFSS.

The cost of the pilot was $46,950, which includes the cost of collecting the data and the set-up of the survey by ISR, but not the cost of administering the project by RRFSS, analyzing the data, or any other costs.

The provincial sample pilot project was implemented smoothly and successfully collected a provincial sample focusing on several behaviour and risk indicators. Challenges involved the fit of the pilot in the broader provincial surveillance context and communication around the intention of the pilot.

Funding is the key challenge for implementing a provincial sample as part of RRFSS, both to cover the costs of collecting the provincial sample, and also for resourcing to support the administration of a provincial sample and to support a central analysis function. The value of an ongoing provincial sample was acknowledged by the vast majority of those consulted, particularly if the sample would be used to generate estimates for which there is no other source. Many non-RRFSS-participating health units agreed that a provincial sample would enhance the value of RRFSS, perhaps influencing their decisions about becoming RRFSS-participating health units.

The results of a comparative assessment between PSPP and CCHS showed that for the colorectal screening and self-perceived general health indicators, the estimates from the two surveys were not significantly different. For the Body Mass Index, fruit and vegetable consumption and tobacco use indicators, the estimates from the PSPP were significantly different from the CCHS estimates. The statistically significant differences between the PSPP and CCHS estimates do not necessarily have substantial impact on the utility of the PSPP estimates for program planning and evaluation. The differences do point to the need for a provincial RRFSS comparator for RRFSS local data.
The broader context of surveillance in Ontario, both currently and in future, should be brought to bear on decisions about future steps toward provincial surveillance.

Recommendations were made with respect to fully developing the options for funding a provincial sample as part of RRFSS, including the costs of analysis and administration; preparing a strategy and communication plan to link the potential provincial sample to other initiatives; considering other sampling strategies, such as collecting data for the non-RRFSS-participating health unit areas to put together with existing data from participating health units; and exploring changes and improvements to the RRFSS methodology.
The Rapid Risk Factor Surveillance System (RRFSS) is an ongoing telephone survey that has been used by many Ontario public health units to gather surveillance data on key public health indicators, to monitor public opinion on public health issues and to collect information on emerging issues of importance to public health. RRFSS-participating health units and other groups have consistently identified the lack of a provincially-representative RRFSS sample as a key limitation of RRFSS. Accordingly, in 2011, RRFSS implemented a pilot project to collect a provincial sample that included data from all 36 health unit areas in Ontario, using surplus funds from the RRFSS partnership, and with a small one-time contribution from each of 19 RRFSS-participating health units. Data were collected by the Institute for Social Research (ISR, York University), the organization that collects RRFSS local data, using the same telephone-based interview method employed for RRFSS.

In order to take the opportunity to learn from the pilot experience, and to guide further decision-making related to a provincial sample as part of RRFSS, an evaluation of the Provincial Sample Pilot Project (PSPP) was undertaken, supported by Locally-Driven Collaborative Project funding through Public Health Ontario. The evaluation proposal was reviewed by the Durham Region Health Department in accordance with their Research and Ethics Review process. Ethical approval was obtained in June 2012.

The objectives of the evaluation were to describe the costs of the RRFSS provincial sample, to identify what enabled or challenged the implementation of the PSPP, to describe and measure the impact of the provincial sample pilot project, to determine if the RRFSS provincial sample provides comparable provincial estimates through comparisons with other sources of provincial data, and to determine the potential for, and interest in, implementing the provincial sample as an ongoing part of RRFSS.

Components of the Evaluation
The evaluation used a mixed method design with four types of data: financial cost data for the provincial sample; an online survey of all public health units in Ontario; in-depth qualitative key informant interviews with stakeholders; and a comparative assessment of the 2011 RRFSS provincial estimates with 2011 Census values, estimates from the Canadian Community Health Survey (CCHS) and pseudo-provincial estimates generated from the 2010 and 2011 RRFSS local data.
Cost of the Provincial Sample Pilot Project

The cost of the pilot was $46,950, which includes the cost of collecting the data and the set-up of the survey by ISR, but not the cost of administering the project by RRFSS, analyzing the data, or any other costs. The pilot costs were paid partly from surplus funds with the remainder coming from health unit contributions and an in-kind contribution from ISR. The cost of collecting a pilot in future is estimated to be similar, although the surplus funds are exhausted and, thus, the full cost of the provincial sample would have to be found from other sources. Funding or in-kind contributions to analyze the data centrally would also need to be considered as part of the cost.

Process and Impact of the Provincial Sample Pilot Project

An online census survey of all 36 health units in Ontario was conducted using FluidSurveys. Thirty-two responses were received, a response rate of 89%. Twenty-five key informants were interviewed for the evaluation.

The provincial sample pilot project was implemented smoothly and successfully collected a provincial sample focusing on several behaviour and risk indicators. Enablers included the long history of RRFSS working together as a partnership, the dedication of the RRFSS Steering Group, and the pre-existing relationship RRFSS has with ISR. Challenges involved the fit of the pilot in the broader provincial surveillance context and communication around the intention of the pilot.

Having a provincial comparator and estimates related to emerging issues were valuable components of the pilot and will be well used. These estimates have greatest value for RRFSS-participating health units, who are able to make direct comparisons to their local data when it is available. In addition, the pilot acts as a ‘proof of concept’, showing that a provincial sample as part of RRFSS can be collected without inordinate cost and as a part of the established RRFSS system.

Support for an Ongoing Provincial Sample

The value of an ongoing provincial sample is acknowledged by the vast majority of those consulted, particularly if the sample would be used to generate estimates for which there is no other source (e.g., emerging issues). Many non-RRFSS-participating health units agreed that a provincial sample would enhance the value of RRFSS, perhaps even to the point of converting some of them into RRFSS-participating health units. The majority of respondents consider that a provincial sample would add value to RRFSS. With this level of support, it seems clear that some further steps should be taken to explore options for implementing a provincial sample as part of RRFSS. Funding is the key challenge, both to cover the costs of collecting the provincial sample, and also for resourcing to support the administration of a provincial sample and to support a central analysis function.

Provincial and research partners in interviews expressed some interest in the potential of a provincial sample as part of RRFSS and the option of contributing questions to the survey on topics of relevance for them. However, this is, at present, a very soft potential source of revenue, since many technicalities would have to be worked out before non-health unit partners could be included as contributors to the RRFSS survey. Several informants commented that this was not a good time economically for their agencies to be looking for ‘new money’ for any initiatives.
An alternate approach to derive a provincial sample data collection was suggested by several surveillance experts: combining existing RRFSS data with a separate process to collect data from non-participating health unit areas to ‘fill the gaps’ left by incomplete coverage of the province. However, this approach would mean that non-RRFSS-participating health units would have data for their areas at no cost, whereas participating health units would be paying for their data. Such an obviously inequitable system would be unlikely to succeed, as it creates a strong disincentive for RRFSS-participating health units to continue to participate.

Although it is a challenge associated with RRFSS overall and not only the provincial sample, there are limitations associated with using a telephone, landline survey methodology. Advances in survey approaches are emerging, and although new approaches may not be needed for the existing function of RRFSS, the future direction and possible expansion of RRFSS requires that methodological considerations be raised.

### Comparative Assessment of Provincial Estimates

A comparative assessment was carried out to determine if the RRFSS provincial sample provided comparable provincial estimates through comparisons with other sources of provincial data including the 2011 Census values, estimates from the Canadian Community Health Survey (CCHS) and pseudo-provincial estimates generated from the 2010 and 2011 RRFSS local data.

Comparison of the age and sex distribution of the PSPP with the 2011 Census for age 18+ revealed significant differences, with the PSPP under-representing males and the younger adult population and conversely over-representing females and older adults and seniors. The unweighted CCHS estimates were also significantly different from the Census, under-representing the same demographic groups as the PSPP. However, the weighted CCHS estimates were much closer to the Census values. This is not surprising as the CCHS weighting included post-stratification calibration to match Census-derived population projection counts by age and sex. No such adjustment was applied to the PSPP sample.

PSPP and CCHS were compared for age, sex, marital status, education, employment, children living in the household and immigration status. With the exception of education, all variables showed significant differences between the PSPP and CCHS.

PSPP and CCHS were compared for indicators of BMI, colorectal screening, fruit and vegetable (F&V) consumption, self-perceived general health and tobacco use. For the colorectal screening and self-perceived general health indicators, the estimates from the two surveys were not significantly different. For the BMI, F&V consumption and tobacco use indicators, the estimates from the PSPP were significantly different from the CCHS estimates.

Although the pseudo-provincial estimates based on the combined RRFSS local data appear to have similar comparability to the CCHS as the PSPP, the pseudo-provincial sample will change every year depending on RRFSS participation so cannot provide provincial estimates that are comparable over time.

Regression analysis was carried out to explore the relationship between the differences in the estimates obtained using CCHS and PSPP data for fruit and vegetable consumption and tobacco use and the differences in the distribution of socio-demographic factors between respondents in the two surveys. The major effects of important socio-demographic variables were strong and consistent across both source surveys, so inferences made with respect to these effects using either data set would be largely equivalent.
The statistically significant differences between the PSPP and CCHS estimates do not necessarily have substantial impact on the utility of the estimates for program planning and evaluation. Overall, the estimates are in the same order of magnitude and the effects of most socio-demographic variables are consistent across the two surveys. The precision of the point estimates is less crucial than the ability to use the estimates to track changes over time and have a provincial RRFSS comparator for local RRFSS results. However, as identified by some key informants, having different estimates for the same indicators can lead to confusion when reporting the results. Though more research may be required to determine why these differences exist, the differences do themselves point to the need for a provincial RRFSS comparator for RRFSS local data.

Perceived Opportunities, Challenges, and Next Steps

RRFSS is intended to be, first and foremost, a local health unit surveillance system and to provide “pretty good data, pretty quick”. RRFSS has been good enough for this purpose and has proven its value over more than 10 years to health units who participate. Beyond having local estimates, health units would welcome provincial comparators, and they also need to ensure the ongoing sustainability of RRFSS. There is recognition that, in order to sustain RRFSS, and potentially to grow the system in valuable ways, more revenue will be needed. But it must be noted that health units, both participating and not, are also looking for cost reductions that would make RRFSS participation sustainable for them over the longer term.

Many interviewees suggested that provincial estimates would be valuable as accountability agreement indicators in a performance management context. However, a way to fund a system that included provincial estimates and local estimates for all health units would need to be found before the relevance of the pilot to accountability agreements would be seen.

It was suggested by several key informants that future development would need to occur in partnership. The broader context of surveillance in Ontario, both currently and in future, should be brought to bear on decisions about future steps toward provincial surveillance. Interviewees suggested that there may be newly developing surveillance initiatives in the province that would be focusing on behaviour and risk factor surveillance, and that RRFSS should be proactive about being involved in these developments so that the potential of RRFSS is considered as these initiatives move forward.
Recommendations

1. Given that there is perceived value in a provincial sample, and given that the pilot has demonstrated the feasibility of collecting such a sample as part of RRFSS, and given that RRFSS provincial estimates provide the best comparator for RRFSS local data, the RRFSS partnership should more fully develop the options for funding a provincial sample as part of RRFSS, including the costs of analysis and administration.

2. The RRFSS partnership should prepare a strategy and communication plan to link the potential provincial sample to other initiatives going on now or emerging in the province.

3. The RRFSS partnership should consider other sampling strategies, such as collecting data for the non-RRFSS-participating health unit areas to put together with existing data from participating health units, as a way of generating a provincial sample, with particular reference to the cost implications and utility of this approach versus the sampling approach used in the pilot.

4. RRFSS should continue to explore changes and improvements to its methodology. Any improvements would increase the value of RRFSS and thereby potentially contribute to its sustainability.
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Introduction

Rapid Risk Factor Surveillance System (RRFSS)

The Rapid Risk Factor Surveillance System (RRFSS) is an ongoing telephone survey that has been used by many Ontario public health units to gather surveillance data on key public health indicators, to monitor public opinion on public health issues, and to collect information on emerging issues of importance to public health. Eighteen health units across Ontario currently participate in RRFSS. Costs associated with RRFSS are paid for by RRFSS-participating health units.

The purpose of RRFSS is to provide timely data relevant to local public health needs. The results are used to support program planning and evaluation, to advocate for public policy development and to improve community awareness regarding the risks for chronic diseases, infectious disease, and injuries. RRFSS data have also been the platform for research projects related to fruit and vegetable consumption, parenting, the Ontario Tobacco Strategy, lawn care and pesticide use, air quality and climate change, and the comparison of self-reported results to those obtained through biological assessment.

Provincial Sample Pilot Project (PSPP)

RRFSS-participating health units and other groups have consistently identified the lack of a provincially-representative RRFSS sample as a key limitation of RRFSS (RRFSS Evaluation Group, 2006). Accordingly, in 2011, RRFSS implemented a pilot project to collect a provincial sample that included data from all 36 health unit areas in Ontario. Sampling for the provincial data stream was proportionate to the size of the respective health units’ populations. Data collection for the pilot project was funded by RRFSS-participating health units.

The intent of the provincial sample pilot project was to provide reliable and representative RRFSS estimates for Ontario as a whole, and in so doing:

- provide a valid comparator for local health unit results for selected indicators;
- allow for a reduction in RRFSS “core” content, thereby increasing the flexibility of RRFSS at the local level;
- provide a more flexible, timely system by which to collect more provincially-relevant risk factor surveillance data than is currently available; and
- allow RRFSS to explore revenue-generating opportunities for a possible ongoing provincial survey component.
Introduction

There is a long history of RRFSS efforts to gather a provincial sample. The intent had always been to implement RRFSS across all Ontario health units, and thereby to secure a provincial sample as well as local estimates for each health unit area. However, after several promising opportunities to fund and implement such a system were not realized, the RRFSS partnership chose to pursue a new approach to a provincial sample. Rather than collecting local data across all health units and combining it to have a provincial estimate, a provincial sample could be collected independently of the local data and without requiring local estimates for all health units. Using surplus funds from the RRFSS partnership, and with a small one-time contribution from each of 19 RRFSS-participating health units (the total number participating in 2011), such a provincial sample was funded for 2011. Data were collected by the Institute for Social Research (ISR, York University), the organization that collects RRFSS local data, using the same telephone-based interview method employed for RRFSS. The PSPP targeted Ontario residents age 18 and over with sampling at the health unit level and sample size proportionate to the health unit population. The questionnaire was based on the 2011 RRFSS core modules but with some small changes to make best use of this opportunity for a provincial sample. Indicators that overlap with the Canadian Community Health Survey were intentionally included, so as to make comparison to the PSPP estimates possible. Emerging issues of public health importance were also included, such as bed bugs and water fluoridation. The PSPP sample was weighted using household weights to adjust for unequal probability of respondent selection within the household, and using health unit population weights to match the population distribution among health units. No further weights or adjustments were applied.

Evaluation of the Provincial Sample Pilot Project

In order to take the opportunity to learn from the pilot experience, and to guide further decision making related to a provincial sample as part of RRFSS, an evaluation of the Provincial Sample Pilot Project (PSPP) was undertaken, supported by Locally-Driven Collaborative Project funding through Public Health Ontario.

The specific objectives of the evaluation were established as follows:

1. To describe the costs of the RRFSS provincial sample;
2. To identify what enabled or challenged the implementation of the PSPP, including:
   a. approach;
   b. sampling;
   c. data collection (contractual process, content selection and modification, decision making and control (for example, monitoring interview lengths), timeliness of data, response of the public (for example, complaints));
   d. data analysis and dissemination of results; and
   e. communication;
3. To describe and measure the impact of the provincial sample pilot project including the:
   a. provision of a useful provincial comparator to health units for their RRFSS local data;
   b. establishment of a timely, responsive system to quickly collect data on emerging public health issues at the provincial level;
   c. allowance for a reduction in the number of “core content” questions required to be asked by health units participating in RRFSS;
d. capacity to make RRFSS more attractive to Ontario health units not participating in RRFSS;

e. contribution towards an increased ability of RRFSS to market itself;

f. provision of opportunities for collaboration with provincial and research partners;

g. contribution towards the development of future revenue-generating opportunities for RRFSS; and

4. To determine the potential for, and interest in, implementing the provincial sample as an ongoing part of RRFSS; and

5. To determine if the RRFSS provincial sample provides comparable provincial estimates, through comparisons with other sources of provincial data including the 2011 Census values, estimates from the Canadian Community Health Survey (CCHS) and pseudo-provincial estimates generated from the 2010 and 2011 RRFSS local data.

Components of the Evaluation

The evaluation used a mixed method design (Onwuegbuzie & Teddlie, 2008; Rallis & Rossman, 2003; Tashakkori & Teddlie, 2003), using four types of data to explore the areas of focus for the evaluation:

1. Financial cost data for the provincial sample;

2. An online survey of all public health units in Ontario;

3. In-depth qualitative key informant interviews with stakeholders; and

4. A comparative assessment of the 2011 RRFSS provincial estimates, through comparisons with the 2011 Census values, estimates from the Canadian Community Health Survey (CCHS) and pseudo-provincial estimates generated from the 2010 and 2011 RRFSS local data.

The evaluation proposal was reviewed by the Durham Region Health Department in accordance with their Research and Ethics Review process. Ethical approval was obtained in June 2012. All confidential files were encrypted and stored securely.

A logic model describing the relationships among elements of the evaluation was prepared and is included as Appendix A.

Structure of the Report

In keeping with the objectives of the evaluation, the report is structured with four sections: Costs; Process and impact of the PSPP; Support for a provincial sample as an ongoing part of RRFSS; and Comparative assessment of provincial estimates. Each section includes its own methodology, results, implications, and conclusions. These separate sections are followed by a final section on perceived opportunities, challenges and next steps, and overall recommendations. The appendices complete the report.
Introduction
Cost of the Provincial Sample Pilot Project

Methodology for Costs

RRFSS records were consulted to determine the costs of collecting the provincial sample. Most in-kind costs specific to the provincial sample were not tracked. A full cost-benefit analysis of the Provincial Sample Pilot Project was beyond the scope of the evaluation.

Results of Cost Analysis

The cost of the provincial sample in 2011 was $46,950. The majority ($31,450) of this cost was paid from RRFSS surplus budget funds and the remainder ($9,500) was paid by RRFSS-participating health units (19 at $500 each); $6,000 in fixed costs for the set-up of the survey was provided in-kind by ISR. The cost figures do not reflect the in-kind time provided by RRFSS representatives, ISR, and the Steering Group. Additionally, costs of the analysis and production of health indicator reports based on the provincial data were covered as part of the Locally Driven Collaborative Projects funding for the evaluation of the Provincial Sample Pilot Project through Public Health Ontario.

Adding a provincial sample to the current RRFSS participant cost would result in a cost increase of approximately $2,600 per health unit, assuming the RRFSS membership stayed at the current 18 health units and assuming that the cost of the provincial sample would be the same as the 2011 sample. If the number of RRFSS-participating health units increased, the cost per health unit could decrease proportionately to a low of $1,300 if all 36 health units participated.

The cost of participating in RRFSS in 2012 was $54,000 per health unit for a 20 minute survey of 100 respondents per month. This cost goes to the purchase of the survey data as well as to funding a RRFSS Coordinator position. In addition to these costs, an evaluation of RRFSS conducted in 2005 (RRFSS Evaluation Group, 2006) revealed that it takes an average of 10.5 days (73.8 hours) per month to manage RRFSS at a local health unit, approximately 0.6 FTE per health unit. Approximately one-quarter of this time is spent managing provincial and regional activities related to RRFSS. The addition of a provincial sample would increase the amount of data each health unit would have available to analyze, and would slightly increase the amount of time spent on decision making and managing the administrative aspects of RRFSS. In the event that additional partners were brought into the system and were purchasing time on the survey, the coordination and administration load would increase, given the need to arrange data sharing agreements, coordinate question content, etc. Thus, an ongoing provincial sample has the potential to increase the value of RRFSS, but would also increase the costs. The extent to which partner contributions could offset or even reduce the cost burden for health units would require detailed analysis that is beyond the scope of this evaluation.
Conclusions of Cost Analysis

The cost of the pilot was $46,950, which includes the cost of collecting the data and the set-up of the survey by ISR, but not the cost of administering the project by RRFSS, analyzing the data or any other costs. The cost of collecting a pilot in future is estimated to be similar, although the surplus funds are exhausted and, thus, the full cost of the provincial sample would have to be found from other sources. Funding or in-kind contributions to analyze the data centrally would also need to be considered as part of the cost.
Process and Impact of the Provincial Sample Pilot Project

Methodology for Online Survey of Health Units

An online census survey of all 36 health units in Ontario was conducted using FluidSurveys. The survey questions focused on the strengths, challenges and value of the provincial sample, and the potential strengths, challenges, and considerations for an ongoing provincial sample as part of RRFSS. The survey questions are provided in Appendix B. The survey link was sent to each health unit’s medical officer of health. One response was requested from each health unit. Thirty-two responses were received, a response rate of 89%. The respondents were approximately split between RRFSS-participating (n=15) and non-RRFSS-participating (n=17) health units. Of the 17 non-RRFSS-participating health units, about half (9/17) had previously been RRFSS-participating health units (1 for less than 2 years, 4 for 2–5 years and 4 for longer than 5 years).

Responses were most often completed by an epidemiologist or less often, by a medical officer of health or a combination of health unit representatives. More than 85% of respondents said they were at least somewhat aware of the PSPP.

Frequencies in the quantitative data were analyzed using SPSS. Differences between RRFSS-participating and non-RRFSS-participating health units were tested and none were found to be significant. Qualitative data from open-ended questions and comments on the online survey were analyzed for themes and key points using NVivo.

Methodology for Key Informant Interviews

Twenty-five key informants were interviewed for the evaluation from a variety of constituencies as shown in Table 1 below.

<table>
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<th>Key informant type</th>
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<td>Potential data users and surveillance experts from provincial and national agencies, organizations, government, and universities</td>
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<tr>
<td>RRFSS stakeholders: Health unit members of RRFSS Steering Group (group interview), ISR members, RRFSS Coordinator, RRFSS Steering Group Chair</td>
<td>5</td>
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<tr>
<td>RRFSS-participating health units, including recent and long-standing RRFSS-participating health units and large and small health units</td>
<td>5</td>
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<tr>
<td>Non-RRFSS-participating health units, including two former-RRFSS-participating health units and two never-RRFSS-participating health units</td>
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In addition to the key informants listed in Table 1, two additional potential users from non-governmental organizations with mandates for chronic disease prevention were invited to participate in the interviews but did not respond to the invitation.

A backgrounder (Appendix C) and list of questions (see sample in Appendix D) was provided to key informants prior to the interview, along with four health indicator reports based on data generated from the provincial sample (see Appendix E). The interviews were conducted by telephone using a semi-structured interview guide consisting of a set of common questions for all participants, combined with questions tailored to the unique characteristics of each type of key informant. The interviews included questions about the strengths and challenges associated with the 2011 pilot, the value of the provincial sample, and the potential strengths, challenges, and considerations for an ongoing provincial sample as part of RRFSS. The interviews were voice-recorded with consent and transcribed. Interviews lasted between 30 minutes and 2 hours.

Interviewees were given an opportunity to review their transcripts. Transcripts of the interviews were analyzed using NVivo, identifying interview content relevant to each of the specified areas of focus for the evaluation. Themes that emerged from the interviews are described in the relevant sections of the report; exemplary quotations are provided throughout to provide insights into the key informants’ perspectives in their own words (Sandelowski, 2003). Quotations were sent to the informant prior to publication, requesting active consent for the specific quotation to be presented in this report. Quotations were edited in some cases to remove disfluencies. For some quotations, sections were edited to shorten the quotation; these omissions are indicated with ellipses. Informants were advised that they would not be named in the report, but that if a quotation was used from their interview, the key informant type would be identified: RRFSS-participating health unit; non-RRFSS-participating health unit; potential data user or surveillance expert; RRFSS stakeholder. In the event that a particular quotation would risk identifying the individual, additional consent was sought from the informant before using the quotation.

Results and Implications of the Process and Impact Evaluation

The following discussion of the Provincial Sample Pilot Project draws from the online survey and the key informant interviews, with verbatim quotations from the interviews included as examples of the content of the interview to illustrate certain points or themes. Some written comments from the online survey are also included verbatim as appropriate to amplify the discussion.

Provincial Sample Pilot Project Enablers and Challenges

Approach

The approach to the 2011 provincial sample pilot required a different approach than what had previously been envisioned as necessary for a provincial sample as part of RRFSS. The new approach was described by one RRFSS stakeholder in the quotation that follows.
We had always had [as a goal] provincial expansion first and then provincial estimates second, and with the understanding that that was the holy grail that we were all chasing, turning RRFSS into this provincial system. And I think we came to the realization that that might never happen…. A provincial comparator was the most obvious hole in RRFSS. It was the most obvious thing that RRFSS was lacking in terms of providing a true benefit to those who could participate.

-RRFSS Stakeholder

The pilot provided an opportunity to explore new directions for RRFSS, to potentially add value to the system, and perhaps to make it marketable and sustainable for the longer term.

I remember some discussion around the fact that RRFSS had been around for a while and they were looking to get to the next level, see whatever is needed to advance this tool. So I think it was a good move to actually do a pilot and show that it could work, or not work….

-potential data user or surveillance expert

**Sampling**

The sampling approach for the PSPP generated some comments among key informants, although in many cases the comments were related to RRFSS in general and were not specific to the PSPP. Some informants simply noted that more information about the sampling approach would be needed in order for them to express an informed opinion; some commented on what appeared to be a relatively small sample; and some commented on known limitations associated with telephone interviewing in terms of missing those without landlines and over-representing certain population groups. In general, the sense was that the sampling approach was probably reasonable given the intent of the survey to produce provincial estimates and to use a similar approach to RRFSS.

**Data Collection**

The pilot was launched in 2011, with this evaluation occurring in 2012. Interviews explored several aspects of the pilot, to elicit a description of the factors that worked well in the pilot and those that created challenges. Aspects such as the contractual process, the selection of survey content, and the data collection went smoothly and routinely. The contractual process for the provincial sample was noteworthy in that the contract with ISR was with the RRFSS partnership as a whole, rather than with each partner health unit, as is the case for the RRFSS local data collection. Decision making related to the survey was the responsibility of the RRFSS Steering Group in consultation with the RRFSS partnership. Data were collected through 2011 and were available to RRFSS partners by February 2012. A brief delay in making the regular RRFSS local data available was implemented in order to prioritize preparing and cleaning the provincial data set. Although ISR and health units routinely monitor complaints from the public about the survey, none were received related to the provincial sample.
Data Analysis and Dissemination

The provincial pilot differed from the usual RRFSS approach to data analysis because this evaluation involved the generation of estimates centrally and dissemination of the results to health units. Such central analysis is not common practice for RRFSS and created additional value for RRFSS-participating health units as well as requiring a time investment from those RRFSS partners who carried out the analysis and reporting tasks.

The dissemination of the health indicator reports that were generated using the provincial data was done by several methods: posting on the RRFSS website; circulating to RRFSS partners; announcement through the Association of Public Health Epidemiologists in Ontario (APHEO); and by dissemination to key informants for this evaluation.

Response to the health indicator reports was very positive: Interviewees found the reports informative and easy to follow. Some wished for additional methodological information, or for information about comparable estimates (which is contained elsewhere in this report). Several commented that three of the four indicators that were provided to interviewees overlapped with CCHS indicators and therefore did not provide much by way of new information, but that the indicators for which there is no other comparable source were of considerable interest.

I have always maintained that one strength of RRFSS is in enabling public health to ask specific public health questions in a timely fashion. I feel that’s a strong niche of RRFSS, so here we have some information about water fluoridation that I don’t believe has been available in any other form for Ontario. The other three modules that were released, the tobacco, BMI, fruit and vegetables, I found less interesting, because there are other sources for some of that information. But the water fluoridation, I would see that as a strength, because here’s some useful information at a provincial level that we didn’t have at our fingertips before, relatively recently collected.

-potential data user or surveillance expert

It was also noted that, although the duplication with CCHS and other sources may have had a purpose for this pilot, having multiple estimates does create the potential for confusion among data users about which estimate to use.

I’m finding it really discouraging to have all these smoking estimates out there, because I think it’s confusing, and part of it is RRFSS being a little different. … I think this is part of the uncoordinated picture of surveillance in Ontario, because people looking at [some] results want to know why my result is different from what ICES got analyzing CCHS data…, and having a RRFSS report out there with a yet lower estimate just makes it awkward.

-potential data user or surveillance expert
Communication

It was noted in interviews with RRFSS stakeholders that communication with parties outside the RRFSS partnership was not given highest priority, in part because of the short timeframe in which the pilot was conceptualized, implemented and evaluated. In particular, the pilot was conceived during a time period in which meetings of a provincial surveillance group were being held: the Ontario Risk and Behaviour Surveillance System (ORBSS), led and supported by the Ontario Agency for Health Protection and Promotion (now known as Public Health Ontario). Perspectives from interviews differed in describing the extent to which the implementation of the provincial sample pilot project should have been, or might have benefited from being, discussed initially at the ORBSS table. The discussions and decisions about implementation of the pilot went on within the RRFSS partnership as the funder and initiator of the pilot. However, some members of the ORBSS group felt that such an initiative should have been brought to the ORBSS planning table for information and consideration of how the pilot would interface with other initiatives and the larger surveillance context in the province. Although the actual implementation of the pilot was not affected, the challenges associated with the differences of perspective about the pilot among agencies at the ORBSS table may still be relevant as the future of a provincial sample is considered.

*What I conceive to be the biggest challenge with implementation of the pilot project, by far, was managing perception among the stakeholders, saying that okay, we are going to do it ourselves, and not having that being interpreted by everybody as we want nothing to do with collaboration.*

-RRFSS stakeholder

*I would think it would be essential to have done some consultation with surveillance at Public Health Ontario, and I'm not sure how much of that happened. And I guess I'll say that, again, this would be of some relevance to some of the questions about the potential going forward.*

-potential data user or surveillance expert

It should be noted that a positive relationship continues between PHO and RRFSS, despite the challenges that were experienced.

*PHO feels, from my perspective, that they've continued to support RRFSS despite this…. They engaged RRFSS during H1N1, …they're interested in the data, they're interested in the dataset, they're wanting to be supportive, obviously they were keen to have the evaluation done through Locally Driven Collaborative Projects. So I think that the support is there, but they've got the same issue that we have, which is the bottom line. The province is not in business of investing more dollars in collecting more information.*

-RRFSS-participating health unit
Intended and Perceived Benefits of the Provincial Sample Pilot Project

The intended benefits of the provincial sample pilot project were identified as:

**Useful estimates**

- provision of a useful provincial comparator to health units for their RRFSS local data
- establishment of a timely, responsive system to quickly collect data on emerging public health issues at the provincial level

**Improvements to the RRFSS system**

- allowance for a reduction in the number of “core content” questions required to be asked by health units participating in RRFSS
- potential capacity to make RRFSS more attractive to Ontario health units not participating in RRFSS

**Contribution to the sustainability of RRFSS overall**

- contribution towards an increased ability of RRFSS to market itself
- provision of opportunities for collaboration with provincial and research partners
- contribution towards the development of future revenue-generating opportunities for RRFSS.

The survey and interview data both provide insights into the extent to which these intended benefits were realized, as described in detail below. Generally, survey data are presented first, where available, followed by additional insights from interviews. Both identified strengths and identified challenges associated with the pilot and with a provincial sample were gathered from interviews and are presented here.

**Useful Estimates**

**Provincial comparator**

A provincial comparator for local data is important to all survey respondents, as shown in Figure 1; however, a provincial comparator is actually more important to non-RRFSS-participating health units than to RRFSS-participating health units. This suggests that the availability of a provincial comparator in RRFSS would be attractive to non-RRFSS-participating health units as well as being important to participating health units.
Figure 1. Responses to online survey question: How important to your health unit is having a provincial comparator for local data?

<table>
<thead>
<tr>
<th>Response</th>
<th>Chart</th>
<th>Percentage</th>
<th>Count</th>
<th>RRFSS HUs (n=15)</th>
<th>Non-RRFSS HUs (n=17)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very important</td>
<td></td>
<td>72%</td>
<td>23</td>
<td>66.7%</td>
<td>76.5%</td>
</tr>
<tr>
<td>Somewhat important</td>
<td></td>
<td>28%</td>
<td>9</td>
<td>33.3%</td>
<td>23.5%</td>
</tr>
<tr>
<td>Not very important</td>
<td></td>
<td>0%</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not at all important</td>
<td></td>
<td>0%</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Don’t know</td>
<td></td>
<td>0%</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total Responses</strong></td>
<td></td>
<td><strong>32</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Similarly, key informants recognized the value of a provincial comparator for local data, as shown in the following quotations.

_We’re releasing some health indicator reports which for the first time have a provincial estimate by which I can compare my local estimate, and I tell you, just seeing that line on the graph is reassuring to me, it was ten years in the making and for the first time I can look at that and say, yeah, that’s definitely a provincial estimate. It’s not a “yeah, but you know, we’re missing such and such health unit, or half the health units”. And even my medical officer of health, when we shared those reports for approval, said having this type of benchmark is invaluable to us, and it really is. I think it’s invaluable to let health units know how they’re doing with respect to certain indicators._

-RRFSS stakeholder

_If it was in place on a regular basis, a long term basis, it can be used for that flexibility side and for emerging indicators, emerging issues, which is something we don’t have right now. In addition, I don’t know the actual number or the actual cost, but intuitively I think it’s a pretty cost effective way of getting provincial level indicators, that are comparable at the RRFSS level. You have provincial level indicators from the CCHS, and they serve their own purpose, but as far as the comparability that’s in RRFSS, it seems to me a pretty cost effective way._

-potential data user or surveillance expert
Health units, for the most part, are very much interested in benchmarking themselves against something else, and what we would routinely do, in any kind of dataset, was to benchmark yourself against the provincial average, so are you higher, lower, or the same against the provincial average in any type of risk behaviour or preventative behaviour that’s related to public health. So that, I think, was seen as being a real benefit.

-RRFSS-participating health unit

Timely, responsive system for emerging public health issues
A timely, responsive system to provide data on emerging issues at the provincial level is very important to RRFSS-participating health units and less so to non-RRFSS-participating health units, although it is still somewhat important to all survey respondents (see Figure 2). The difference between RRFSS-participating and non-RRFSS-participating health units makes intuitive sense, given that RRFSS is already intended to be a timely responsive system to collect data on emerging issues, albeit at the local level: those who find this to be very important have already chosen to participate; for health units that rate this goal as somewhat less important, they have already chosen not to participate in RRFSS.

Figure 2. Responses to online survey question: How important to your health unit is the establishment of a timely, responsive system to collect data on emerging public health issues at the provincial level?

<table>
<thead>
<tr>
<th>Response</th>
<th>Chart</th>
<th>Percentage</th>
<th>Count</th>
<th>RRFSS HUs</th>
<th>Non-RRFSS HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very important</td>
<td>⭕</td>
<td>59%</td>
<td>19</td>
<td>73.3%</td>
<td>47.1%</td>
</tr>
<tr>
<td>Somewhat important</td>
<td>☐</td>
<td>38%</td>
<td>12</td>
<td>26.7%</td>
<td>47.1%</td>
</tr>
<tr>
<td>Not very important</td>
<td>☝</td>
<td>3%</td>
<td>1</td>
<td>5.9%</td>
<td></td>
</tr>
<tr>
<td>Not at all important</td>
<td>📈</td>
<td>0%</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Don’t know</td>
<td>📈</td>
<td>0%</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Responses</td>
<td></td>
<td></td>
<td>32</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Key informants recognized the value in having more opportunities to collect timely information about emerging issues.

A strong point really of the whole RRFSS survey is that it is so responsive. So if we had a need for provincial level data on a very topical issue, such as right now a good example would be the tanning beds amongst teenagers, and we had a provincial sample as part of RRFSS, we could initiate that for a provincial sample and have results within just over a year, and provide the participating health units with some really good data, and we can’t get that with any of our other data sources.

-Non-RRFSS-participating health unit
So far I’ve only analyzed one module. And that was the bed bugs, and of course there was bed bugs provincial money in order to do surveillance around whether you have an issue of bed bugs in your local jurisdiction, and so, bam, perfect opportunity, and a number of health units used RRFSS as their dataset for that, and then were able to report to the ministry. So, that’s a success of the system being flexible enough that it gives health units the opportunity to do that.

-RRFSS-participating health unit

**Improvements to the RRFSS system**

**Reduction in RRFSS core content**

Reduced required core content on the RRFSS survey was considered at least somewhat important by most survey respondents, with little difference between RRFSS-participating and non-RRFSS-participating health units (see Figure 3). Comments associated with this item suggest that several non-RRFSS-participating health units favour a reduction in core content that would allow participants to introduce more local content and/or to reduce costs. However, it should be noted that not all respondents favour a reduction in core content, given that core questions create a valuable dataset over time.

**Figure 3. Responses to online survey question: How important to your health unit is increased flexibility for RRFSS-participating health units through a reduction in the number of core questions that all RRFSS surveys must ask (which would result in an increase in the local health unit-selected content, or a reduced cost for fewer questions)?**

<table>
<thead>
<tr>
<th>Response</th>
<th>Chart</th>
<th>Percentage</th>
<th>Count</th>
<th>RRFSS HUs</th>
<th>Non-RRFSS HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very important</td>
<td></td>
<td>50%</td>
<td>16</td>
<td>46.7%</td>
<td>52.9%</td>
</tr>
<tr>
<td>Somewhat important</td>
<td></td>
<td>38%</td>
<td>12</td>
<td>40%</td>
<td>35.3%</td>
</tr>
<tr>
<td>Not very important</td>
<td></td>
<td>6%</td>
<td>2</td>
<td>6.7%</td>
<td>5.9%</td>
</tr>
<tr>
<td>Not at all important</td>
<td></td>
<td>6%</td>
<td>2</td>
<td>6.7%</td>
<td>5.9%</td>
</tr>
<tr>
<td>Don’t know</td>
<td></td>
<td>0%</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total Responses</strong></td>
<td></td>
<td><strong>32</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Key informants in the interviews, especially from health units, generally valued the possibility of reducing core content if that were to also increase flexibility for them to add local content or were to reduce costs. However, many informants were not convinced that adding a provincial sample would necessarily result in a significant reduction in core content for participating health units.

It was noted by key informants that a provincial sample would require a certain level of consistency of the questions over time, thereby removing some flexibility from the system even as flexibility is increased by reducing locally-required core content. Also, in order to have a local comparator to the core questions on a provincial sample, the health unit would have to ask those
questions in any case, so the increase in locally-selected content would be constrained. However, a health unit might choose not to ask those provincial core questions every year, for example, thereby still yielding some increased flexibility.

It should be noted, however, that the reduction in core that happened through the pilot is a change in RRFSS that has persisted.

[The pilot] did achieve the goal, during the pilot year, of reducing the core content of the regular RRFSS. And it persists now, actually. That’s a change that we’ve adopted. It’s kind of a legacy of the pilot, if you think about it.

-RRFSS stakeholder

Capacity to make RRFSS more attractive to non-participating health units

RRFSS-participating health units generally see the importance of having more health units participating in RRFSS; this is less true for non-RRFSS-participating health units, although still almost half of the latter group attach some importance to this outcome (see Figure 4). It is perhaps surprising that 20% of RRFSS-participating health units do not see this outcome as very important, since this group stands to benefit from having a larger group of participants, in terms of sustainability of RRFSS and in terms of potential for cost reductions or other enhancements to RRFSS that would become feasible with broader participation. Increasing participation in RRFSS is not a new issue; it is possible that these health units are ready to live with the situation as it is and feel that RRFSS needs to proceed with whatever level of participation can be achieved.

Figure 4. Responses to online survey question: How important to your health unit is having more Ontario health units participating in RRFSS?

<table>
<thead>
<tr>
<th>Response</th>
<th>Chart</th>
<th>Percentage</th>
<th>Count</th>
<th>RRFSS HUs</th>
<th>Non-RRFSS HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very important</td>
<td></td>
<td>38%</td>
<td>12</td>
<td>46.7%</td>
<td>29.4%</td>
</tr>
<tr>
<td>Somewhat important</td>
<td></td>
<td>25%</td>
<td>8</td>
<td>33.3%</td>
<td>17.6%</td>
</tr>
<tr>
<td>Not very important</td>
<td></td>
<td>25%</td>
<td>8</td>
<td>20%</td>
<td>29.4%</td>
</tr>
<tr>
<td>Not at all important</td>
<td></td>
<td>6%</td>
<td>2</td>
<td></td>
<td>11.8%</td>
</tr>
<tr>
<td>Don’t know</td>
<td></td>
<td>6%</td>
<td>2</td>
<td></td>
<td>11.8%</td>
</tr>
<tr>
<td><strong>Total Responses</strong></td>
<td></td>
<td><strong>32</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For health units that already participate in RRFSS, the addition of a provincial sample might not make a lot of difference to their intent to participate (see Figure 5). As many said, they have no intention of leaving RRFSS, so the provincial sample would not change their intent.
Figure 5. Responses to online survey question: If the provincial sample were part of RRFSS and all else remained unchanged, how would this affect the likelihood that your health unit would continue to be a RRFSS participant? (asked of RRFSS-participating health units)

<table>
<thead>
<tr>
<th>Response</th>
<th>Chart</th>
<th>Percentage</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>We would be more likely to continue to participate in RRFSS in future</td>
<td></td>
<td>36%</td>
<td>5</td>
</tr>
<tr>
<td>We would be equally likely to continue to participate in RRFSS in future</td>
<td></td>
<td>64%</td>
<td>9</td>
</tr>
<tr>
<td>We would be less likely to participate in RRFSS in future</td>
<td></td>
<td>0%</td>
<td>0</td>
</tr>
<tr>
<td>Total Responses</td>
<td></td>
<td></td>
<td>14</td>
</tr>
</tbody>
</table>

For non-participating health units, as shown in Figure 6, the story is similar: having a provincial sample does not change the intent for most respondents. Comments related to this item reflect the issue of cost and resource burden as being the most significant influences on non-participation, themes that have already been identified in other RRFSS evaluations (RRFSS Evaluation Group, 2006).

Figure 6. Responses to online survey question: If the provincial sample were part of RRFSS and all else remained unchanged, how would this affect the likelihood that your health unit would become a RRFSS participant? (asked of non-RRFSS-participating health units)

<table>
<thead>
<tr>
<th>Response</th>
<th>Chart</th>
<th>Percentage</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>We would be more likely to continue to participate in RRFSS in future</td>
<td></td>
<td>29%</td>
<td>5</td>
</tr>
<tr>
<td>We would be equally likely to continue to participate in RRFSS in future</td>
<td></td>
<td>71%</td>
<td>12</td>
</tr>
<tr>
<td>We would be less likely to participate in RRFSS in future</td>
<td></td>
<td>0%</td>
<td>0</td>
</tr>
<tr>
<td>Total Responses</td>
<td></td>
<td></td>
<td>17</td>
</tr>
</tbody>
</table>

However, the provincial sample has the potential to bring other changes, and some of these changes were reported by survey respondents as important influences on health unit decision making about continuing or starting to participate, as summarized in Table 2. Potential changes include reduced core and more local content; reduced core and reduced cost; provincial-level data on emerging issues. For non-RRFSS-participating health units, these three factors all seem to have some bearing on participation, with reduced cost being the most important. For RRFSS-participating health units, only the provincial-level data on emerging issues seemed to be a meaningful influence on the decision to participate (again noting that these health units have already chosen to participate in RRFSS as it stands). These factors were not seen as factors that might decrease levels of participation (a maximum of one respondent for each question said that the factor would decrease their intention to participate or continue to participate).
Table 2. Factors influencing intent to (continue to) participate in RRFSS, percentages, for RRFSS-participating and non-RRFSS-participating health units

<table>
<thead>
<tr>
<th></th>
<th>RRFSS-participating</th>
<th>Non-RRFSS-participating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fewer core questions that all RRFSS surveys must ask, which could lead to more local health unit-selected content</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Our intention to (continue to) participate would increase</td>
<td>27%</td>
<td>59%</td>
</tr>
<tr>
<td>Our intention to (continue to) participate would stay the same</td>
<td>67%</td>
<td>35%</td>
</tr>
<tr>
<td>Our intention to (continue to) participate would decrease</td>
<td>7%</td>
<td>6%</td>
</tr>
<tr>
<td>Fewer core questions that all RRFSS surveys must ask, which could lead to a shorter local survey length and reduced cost</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Our intention to (continue to) participate would increase</td>
<td>33%</td>
<td>82%</td>
</tr>
<tr>
<td>Our intention to (continue to) participate would stay the same</td>
<td>60%</td>
<td>18%</td>
</tr>
<tr>
<td>Our intention to (continue to) participate would decrease</td>
<td>7%</td>
<td>0%</td>
</tr>
<tr>
<td>Timely access to provincial-level information, such as emerging public health issues</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Our intention to (continue to) participate would increase</td>
<td>60%</td>
<td>53%</td>
</tr>
<tr>
<td>Our intention to (continue to) participate would stay the same</td>
<td>40%</td>
<td>47%</td>
</tr>
<tr>
<td>Our intention to (continue to) participate would decrease</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

Although participating health units have already indicated their interest in participating in RRFSS through their actions, and, therefore, experience a ceiling effect in terms of possible increases to their intention, timely provincial-level information on emerging public health issues was the most important source of influence. This may reflect the fact that, for participating health units, the hurdles of local content selection and cost have already been overcome. Provincial-level information, by contrast, is not currently available in RRFSS and therefore represents a true change in RRFSS which would be an influential factor on participation.

The major barrier to participation is cost, as has been reflected in previous RRFSS evaluations (RRFSS Evaluation Group, 2006). Thus, anything that would decrease the cost of RRFSS participation would be welcomed by non-RRFSS-participating health units who are interested in RRFSS. It must be noted that cost is a consideration for participating health units also. Continued participation in RRFSS is not a given; health units consider each year whether they can find funds to support RRFSS participation. Even a modest potential increase in cost might result in some participating health units being unable to continue their participation over the longer term.

*Interviewer: if being a RRFSS-participating health unit gets you local estimates, but to participate in the provincial sample would be an additional commitment, and additional cost, do you have a sense that you would opt in, or...?*

*We would be opting out. We are concerned about our sustainability of RRFSS as it is, without the additional cost of a provincial sample.*

-RRFSS-participating health unit
We will make the decision to be a participant or not, and I don’t think the provincial sample would stop us from being a participant, or be the entire basis of that decision. I think if the health unit decides that we do not want to be involved in RRFSS, it would likely be for other reasons. I do not think the additional fee for the provincial sample would inhibit us. But it might. I’m not sure if it would actually be a motivating factor to drop out, but I don’t think it would be a debilitating factor for continuing to participate.

-RRFSS-participating health unit

I think probably cost is going to be one that would be high on lots of people’s list of problems, and our economic situation doesn’t help much. …We’re currently trying to figure out what money we will have to do what for us, next year. So as nice as some of that data might be, if it comes down to having that versus meeting the new accountability agreements for HPV vaccine or what have you, I know what the decision would be.

-non-RRFSS participating health unit

Sustainability of RRFSS overall

Increased marketability of RRFSS

One intended opportunity of the provincial sample pilot project was to explore whether having a provincial sample enhanced the value of RRFSS to the point at which other health units would choose to participate, and whether potential partners other than health units would express interest in participating in RRFSS and contributing to RRFSS costs.

As noted above in Figure 4, RRFSS-participating health units may describe having more health units participating in RRFSS as more important because this outcome would have potential advantages for them in terms of reducing costs. However, 20% of RRFSS-participating health units felt that having more participation was not very important. Non-RRFSS-participating health units find increased participation less important, and more than 40% say this is not very or not at all important, perhaps because they would not stand to benefit. However, 47% of non-RRFSS-participating health units still find this somewhat or very important, perhaps suggesting that as more participants join RRFSS and if that resulted in costs coming down, it would make it possible for them to participate as well.

The value of having a provincial comparator as a way of making RRFSS a more marketable product also came through in key informant interviews.

We do have that comparator now, so that’s a major strong point, and hopefully when people see that we do have a provincial sample … it will help with recruitment and retention of health units that are not participating and ones that are already participating.

-RRFSS-participating health unit
Has the value increased in terms of the Provincial Pilot? I think it has, because, because it gives a provincial comparator, and it makes it more likely that more health units might be interested in joining.

-RRFSS stakeholder

The value of having all health units participating cannot be underestimated, although this idea has been explored many times without bearing fruit. Cost, and willingness to pay, are the main barriers. Although it may not be possible at this time for such a system to emerge, it should not be forgotten as an option, whether funded from health units themselves or through government sources.

*I personally think that the focus for the future would be to increase the participation rate of the local health units, rather than to conduct a provincial sample.*

-potential data user or surveillance expert

**Opportunities for collaboration with provincial and research partners**

In the event that RRFSS became a system with an ongoing provincial sample, it is likely that the data generated would be useful to provincial agencies and researchers, creating opportunities for collaboration. Key informants from this ‘potential user’ category certainly welcomed the availability of provincial estimates, particularly if the indicators chosen were not available from other sources such as CCHS. However, there were points raised about this potential for collaboration both by RRFSS-participating health units and by potential users, related to the need for the data to be shared and available to partners.

*The more control you have from somebody else, the less and less input we have. Trying to change the CCHS is difficult, and we can’t use that information to really meet physical activity guidelines, or meet the low risk drinking guidelines. … Whereas with RRFSS we do have control over it, we can modify things in a more timely fashion.*

-RRFSS-participating health unit

*There would be some methodological concerns …. There would be the willingness to collaborate, to be open. There would be the data access issue … Any mechanism is going to require a user like my agency to have separate data-sharing agreements with every RRFSS-participating public health unit. … We would have to move to something beyond that, around data access.*

-potential data user or surveillance expert
There would be some methodological concerns … There would be the willingness to collaborate, to be open. There would be the data access issue … Any mechanism is going to require a user like my agency to have separate data-sharing agreements with every RRFSS-participating public health unit. … We would have to move to something beyond that, around data access.

-potential data user or surveillance expert

I’ve followed RRFSS over the last decade, but I don’t use RRFSS [in my reporting] because it doesn’t have that provincial estimate and it’s hard for me to get the data. I would love to be able to report sub-provincial estimates, but the health regions don’t want me to report how they’re doing with certain indicators.

-potential data user or surveillance expert

Although RRFSS has developed data sharing agreements with partners in the past, and has a procedure for sharing data externally outlined in the RRFSS Manual of Operations, such agreements would require further discussion by the RRFSS partners about whether data could be shared, which data could be shared (all of it, or only provincial-level data), and the extent to which other partners would be able to influence the survey content. There could be resulting additional coordination support required to negotiate data access unless the data were simply made freely available with no permissions required. The benefit to the RRFSS partnership in terms of sustainability is not apparent, unless there are revenues generated as a result of this type of collaboration. This possibility is discussed further in the section below.

Development of future revenue-generating opportunities for RRFSS

Further to the discussion in the section above related to collaboration with other partners, it is possible that collaboration could take the form of a partnership in which provincial agencies and researchers might purchase time on the RRFSS survey to gather data in which they are interested. This item on the survey was not strongly endorsed (see Figure 7), and responses were spread across the response options. Generating revenue was somewhat less important for non-RRFSS-participating health units, perhaps because this outcome would not generate benefits for them.

Figure 7. Responses to online survey question: How important to your health unit is increased potential of RRFSS to generate revenue by giving partners other than health units, such as provincial health and research organizations, an opportunity to place questions on the provincial RRFSS survey for a cost?

<table>
<thead>
<tr>
<th>Response</th>
<th>Chart</th>
<th>Percentage</th>
<th>Count</th>
<th>RRFSS HUs</th>
<th>Non-RRFSS HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very important</td>
<td></td>
<td>12%</td>
<td>4</td>
<td>13.3%</td>
<td>11.8%</td>
</tr>
<tr>
<td>Somewhat important</td>
<td></td>
<td>38%</td>
<td>12</td>
<td>46.7%</td>
<td>29.4%</td>
</tr>
<tr>
<td>Not very important</td>
<td></td>
<td>19%</td>
<td>6</td>
<td>13.3%</td>
<td>23.5%</td>
</tr>
<tr>
<td>Not at all important</td>
<td></td>
<td>16%</td>
<td>5</td>
<td>13.3%</td>
<td>17.6%</td>
</tr>
<tr>
<td>Don’t know</td>
<td></td>
<td>16%</td>
<td>5</td>
<td>13.3%</td>
<td>17.6%</td>
</tr>
<tr>
<td>Total Responses</td>
<td></td>
<td></td>
<td>32</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
There were many questions from key informants and in survey comments about what entering into revenue-generating relationships might mean in terms of loss of local control over survey content, forced reduction in survey length to make room for content from other partners, respondent fatigue if the survey becomes longer, and respondent confusion if partner-added questions are not aligned with the health unit questions.

The thing that we need to think about is if all of a sudden we have even one, maybe two, keen investment opportunities, what does that look like, how is it administered, who has to be engaged to do any negotiations, how does that happen? Because ISR, too, they’ve been very, very good to the RRFSS partnership over the last number of years that we’ve been working with them, but ultimately, you know, their contractual obligations are with the person who’s contracting with them. … We’re not in the business of negotiating those kinds of partnerships, and so we need to have some kind of mechanism in place in order to facilitate that. Because a big player is not going to want to get involved with the mickey-mouse thing, that’s a big headache for them. There has to be some kind of mechanism in place that it’s a very smooth transition, smooth negotiation,… the whole data-sharing thing would need to be worked out.

-RRFSS-participating health unit

We need to give careful consideration to respondent fatigue and the implications that it has on response rate and data quality. The pros of increasing revenue need to be balanced against those potential negative consequences relating to response burden. The burden to participants may be significant when only including questions from public health units, let alone questions from other organizations. If other organizations were allowed to post questions, the timing and question content should be coordinated with public health to prevent question duplication and survey fatigue.

-online survey respondent

If someone like [our organization] comes in, … we have a set number of questions we want, we may be adamant we want these questions, but how does [RRFSS] deal with a third party saying “we want this set of questions”; versus [RRFSS] saying “well I think we should change them or adjust them”; or is that all just left up to ISR, does the third party work with ISR, do they have a contractual relationship with ISR?…That takes up some resources of RRFSS if they’re involved in that.

-potential data user or surveillance expert

There are several options for how to use any possible revenue from new partners. Having new partners might not necessarily reduce costs for health units if the intent is to enrich the system (supporting more functions centrally, for example). Thus, there would still need to be discussion about the implications of having new revenue sources.

Health unit and RRFSS stakeholder informants also described the complexity that would be involved in negotiating arrangements with new partners other than health units, and many doubted whether RRFSS in its current form would be able to effectively administer such an
arrangement. More administrative support would be required, and it is not clear that this type of arrangement would generate enough revenue to justify the additional administration costs and still attain a net increase in revenue for the RRFSS partnership or an improvement in sustainability of RRFSS.

*I guess it’s all about models, but one way you can move RRFSS forward is to get a source of revenue, and if your source of revenue is by allowing people to buy questions, you’re not going to be able to reduce, at the same time, the amount health units are paying, because you actually need that new source of revenue. …If you want to net some gain to the system, and if you reduce health unit costs, you may not get a net gain.*

-potential data user or surveillance expert

*I think that [involving other partners is] a good thing in the sense that it could potentially help offset some of the cost. Now I’m not sure if we’re talking about having that funding to get the provincial comparator, and then our own local costs remain the same, or if that would be enough funding to even help minimize local costs. …Because I think it’s really important to try to get our own local cost down. Yes, I want the provincial comparator as well, but if it’s just going to pay for ourselves, and it adds a lot of work for us, then I think we’d really have to consider the benefit that we’re getting out of it, especially if we’re then not able to choose our questions that we ask.*

-RRFSS-participating health unit

*I wish someone would give RRFSS some funding for some kind of centralization. I think highly of all the people, I think highly of them all, but the truth is, they don’t have a single data person at the centre…. If someone sends an email out to the RRFSS collective and asks “Can you tell me X”, someone’s going to interrupt their job to do the answer, and I just wish that someone would scratch their head and say “Wow, look what these folks have been producing, with a pittance of support from anybody but their own health unit, for more than a decade, and maybe some small central funding would be a great thing to put in place here”. The problem is that every time someone talks about funding, they talk about control, and I think the health units, you know, feel that they’ve earned the right to have a lot of control. I think they’re right.*

-potential data user or surveillance expert

Potential data users were asked in interviews whether they or their organizations might be interested in purchasing time on a provincial survey if that were an option. Potential users generally expressed openness to the potential of such an arrangement, but without knowing the details of what would be involved and what they would receive out of such an arrangement, it is difficult for them to speak with any degree of confidence about their interest in participating.

All potential users spoke of budgetary restraints and their limitations in terms of finding funds for this kind of data collection project. The challenge associated with sole-sourcing by buying into a system that has an existing relationship with ISR was also mentioned.
It would depend on being convinced that the methods for the provincial sample were sound, and that the sample was going to be reasonably representative. It would depend on the ease of valid analysis, so we would have to be convinced that there’d been attention to sampling weights, that we knew how to analyze the data well. Cost, and our own budget limitations, would be an issue.

-potential data user or surveillance expert

Not a very good time for finding new sources of funding, that’s for sure. I think you’ve probably heard this already, the agency [PHO] would be the best place to go, to talk to about what their role might be in being able to continue something of this nature, because that’s certainly where the mandate is.

-potential data user or surveillance expert

There’s actually some real reasons why you wouldn’t do [go with RRFSS], and that’s because it’s sole-sourcing, which is one of those issues government runs into.

-potential data user or surveillance expert

Summary of Benefits of the Provincial Sample Pilot Project

In general, there was a strong sense that having a provincial comparator for local data and having estimates for ‘emerging issues’ were valuable components of the PSPP. The estimates have been, and will be, used by health units and others for planning purposes. Survey results and key informant responses reflect the value of these contributions.

As a one-time pilot, the PSPP did not create a lasting improvement to the RRFSS system. Rather, the pilot acts as a ‘proof of concept’, showing that a provincial sample as part of RRFSS has the potential to allow for a certain level of reduction in core content, thereby increasing flexibility for participating health units. However, the reduction in core content was not considered to be substantial by most participants, because they still wished to include those ‘core’ indicators in their local survey to have an estimate to which to compare the provincial estimate. However, on an ongoing basis, health units might choose to include those core modules less often than every cycle or every year, which would still increase the flexibility enjoyed by participating health units.

The addition of a provincial sample on a one-time basis does not enhance the future value of RRFSS as it stands. However, the value of the pilot as ‘proof of concept’ shows that a provincial sample can be realistically be generated as part of RRFSS, and non-RRFSS-participating health units acknowledge that this potential makes RRFSS a more attractive option. The next steps with respect to possible future implementation of a provincial sample will be closely watched by these interested non-RRFSS-participating health units.

One intent of the provincial sample pilot was to contribute to the sustainability of RRFSS overall. The perceived value of a provincial sample is acknowledged by the vast majority of those consulted, particularly if the sample were to be used to generate estimates for which there is no other source (e.g., emerging issues). Many non-RRFSS-participating health units agreed that a provincial sample would enhance the value of RRFSS, perhaps influencing their decisions about
becoming participating health units (see Table 2). Similarly, provincial and research partners in interviews expressed some interest in the potential of a provincial sample as part of RRFSS and the option of contributing questions to the survey on topics of relevance for them. However, this is, at present, a very soft potential source of revenue, since many technicalities would have to be worked out before non-health unit partners could be included as contributors to the RRFSS survey. Until the specifics are clear, it is difficult to predict that any new sources of revenue would be generated from opening the survey up to other partners. Even if this were done, the extent to which this would generate a reliable, predictable and significant stream of revenue remains to be seen. An occasional influx of funds from outside sources may not enhance the sustainability of RRFSS to any great extent. Several informants commented that this was not a good time economically for their agencies to be looking for ‘new money’ for any initiatives. If they do look for new money, the links to existing initiatives or strategies would have to be made very clear.

**Conclusions on the Process and Impact of the Provincial Sample Pilot Project**

The provincial sample pilot project was implemented smoothly and successfully collected a provincial sample focusing on several behaviour and risk indicators. Enablers included the long history of RRFSS working together as a partnership, the dedication of the RRFSS Steering Group, and the pre-existing relationship RRFSS has with ISR. Challenges involved the fit of the pilot in the broader provincial surveillance context and communication around the intention of the pilot. The pilot acted as a ‘proof of concept,’ showing that a provincial sample as part of RRFSS can be collected without inordinate cost and as a part of the established RRFSS system. Having a provincial comparator and estimates related to emerging issues were valuable components of the pilot and will be well used. These provincial estimates have greatest value for RRFSS-participating health units, who are able to make direct comparisons to their local data when it is available, although non-RRFSS-participating health units also value a provincial estimate.
Support for a Provincial Sample as an Ongoing Part of RRFSS

The majority of respondents consider that a provincial sample would add value to RRFSS, approximately evenly split between increasing the value of RRFSS ‘somewhat’ and increasing the value ‘a lot’ (see Figure 8). It should be noted, however, that there is value in RRFSS as a local system, and even without a provincial comparator, RRFSS still holds some value for 69% of survey respondents (see Figure 9). As would be expected, RRFSS is considered to be very valuable by the majority of RRFSS-participating health units and not very valuable by the majority of non-RRFSS-participating health units (although more than 40% of non-participants still rate RRFSS as somewhat or very valuable).

As shown in Figures 8, 10 and 11, the majority of respondents consider that a provincial sample would add value to RRFSS (44% a lot, 47% somewhat), that a provincial sample is important (47% very important, 41% somewhat important) and the majority support the idea of a provincial sample as part of RRFSS (47% strongly, 41% somewhat). With this level of support, it seems clear that some further steps should be taken to explore options for implementing a provincial sample as part of RRFSS.

**Figure 8. Responses to online survey question: If the provincial sample were part of RRFSS in future, how would the value of RRFSS change?**

<table>
<thead>
<tr>
<th>Response</th>
<th>Chart</th>
<th>Percentage</th>
<th>Count</th>
<th>RRFSS HUs</th>
<th>Non-RRFSS HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>The provincial sample would increase the value of RRFSS a lot</td>
<td></td>
<td>44%</td>
<td>14</td>
<td>46.7%</td>
<td>41.2%</td>
</tr>
<tr>
<td>The provincial sample would increase the value of RRFSS somewhat</td>
<td></td>
<td>47%</td>
<td>15</td>
<td>46.7%</td>
<td>47.1%</td>
</tr>
<tr>
<td>The provincial sample would not change the value of RRFSS</td>
<td></td>
<td>9%</td>
<td>3</td>
<td>6.7%</td>
<td>11.8%</td>
</tr>
<tr>
<td>The provincial sample would decrease the value of RRFSS somewhat</td>
<td></td>
<td>0%</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The provincial sample would decrease the value of RRFSS a lot</td>
<td></td>
<td>0%</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total Responses</strong></td>
<td></td>
<td><strong>32</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Figure 9. Responses to online survey question: As RRFSS stands now, with only local estimates for participating health units, how would you rate the value of RRFSS?

<table>
<thead>
<tr>
<th>Response</th>
<th>Chart</th>
<th>Percentage</th>
<th>Count</th>
<th>RRFSS HUs</th>
<th>Non-RRFSS HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very valuable</td>
<td></td>
<td>38%</td>
<td>12</td>
<td>66.7%</td>
<td>11.8%</td>
</tr>
<tr>
<td>Somewhat valuable</td>
<td></td>
<td>31%</td>
<td>10</td>
<td>33.3%</td>
<td>29.4%</td>
</tr>
<tr>
<td>Not very valuable</td>
<td></td>
<td>28%</td>
<td>9</td>
<td>33.3%</td>
<td>52.9%</td>
</tr>
<tr>
<td>Not at all valuable</td>
<td></td>
<td>3%</td>
<td>1</td>
<td>5.9%</td>
<td></td>
</tr>
<tr>
<td><strong>Total Responses</strong></td>
<td></td>
<td></td>
<td>32</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Figure 10. Responses to online survey question: In your opinion, how important is it that a provincial sample becomes part of RRFSS?

<table>
<thead>
<tr>
<th>Response</th>
<th>Chart</th>
<th>Percentage</th>
<th>Count</th>
<th>RRFSS HUs</th>
<th>Non-RRFSS HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very important</td>
<td></td>
<td>47%</td>
<td>15</td>
<td>53.3%</td>
<td>41.2%</td>
</tr>
<tr>
<td>Somewhat important</td>
<td></td>
<td>41%</td>
<td>13</td>
<td>46.7%</td>
<td>35.3%</td>
</tr>
<tr>
<td>Not very important</td>
<td></td>
<td>6%</td>
<td>2</td>
<td>11.8%</td>
<td></td>
</tr>
<tr>
<td>Not at all important</td>
<td></td>
<td>0%</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No opinion</td>
<td></td>
<td>6%</td>
<td>2</td>
<td>11.8%</td>
<td></td>
</tr>
<tr>
<td><strong>Total Responses</strong></td>
<td></td>
<td></td>
<td>32</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Figure 11. Responses to online survey question: To what extent do you support or oppose the idea of continuing to collect a provincial sample as part of RRFSS?

<table>
<thead>
<tr>
<th>Response</th>
<th>Chart</th>
<th>Percentage</th>
<th>Count</th>
<th>RRFSS HUs</th>
<th>Non-RRFSS HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly support</td>
<td></td>
<td>47%</td>
<td>15</td>
<td>46.7%</td>
<td>47.1%</td>
</tr>
<tr>
<td>Somewhat support</td>
<td></td>
<td>41%</td>
<td>13</td>
<td>46.7%</td>
<td>35.3%</td>
</tr>
<tr>
<td>Slightly support</td>
<td></td>
<td>6%</td>
<td>2</td>
<td>6.7%</td>
<td>5.9%</td>
</tr>
<tr>
<td>Neutral</td>
<td></td>
<td>3%</td>
<td>1</td>
<td></td>
<td>5.9%</td>
</tr>
<tr>
<td>Slightly oppose</td>
<td></td>
<td>3%</td>
<td>1</td>
<td></td>
<td>5.9%</td>
</tr>
<tr>
<td>Somewhat oppose</td>
<td></td>
<td>0%</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly oppose</td>
<td></td>
<td>0%</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total Responses</strong></td>
<td></td>
<td></td>
<td>32</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Online survey comments echoed the support for the provincial sample, in particular for estimates not available through other surveys. They noted the benefits of having a comparator, and the need for capacity to analyze data centrally and a plan for sustainability (including collaboration with external stakeholders).

Our health unit strongly supports the collection of provincial data as there is great benefit from having this comparator. If the provincial sample does remain, we do hope that there is the capacity to analyze the core indicators centrally in a timely manner.

Supportive of the idea as long as it’s based on the results of this evaluation with a plan for sustainability. This should include collaboration with external stakeholders (e.g. PHO).

We strongly support having a provincial sample, particularly for those estimates not available through other valid surveys, or that are not collected as frequently in other surveys. As a non-RRFSS-participating health unit having access to provincial data on emerging public health issues would be very advantageous, however, it doesn’t matter if this data was generated through RRFSS or other mechanisms or agencies (e.g. PHO).

Although most survey respondents and interviewees were in support of a provincial sample, the support is not unanimous. Some health units have chosen not to participate in RRFSS for financial or methodological reasons that are not influenced by the prospect of a provincial sample.

Because we are not a RRFSS-participating health unit, the provincial sample is of limited utility to me. I’m also not one of the people who identified “lack of a provincial sample” as one of the main reasons not to participate in RRFSS, so it’s a non-issue for me.

- non-RRFSS-participating health unit

Methodological Issues Associated with a Provincial Sample

Questions of methodology and comparability must certainly be front and centre in the evaluation of any surveillance initiative. In the case of the PSPP, the specific question concerned whether the RRFSS provincial sample provides comparable provincial estimates through comparisons with other sources of provincial data including the Census, Canadian Community Health Survey (CCHS) and RRFSS pseudo-provincial estimates. Although this question is addressed through comparative analyses described in detail in the section below, key informant and online survey data did shed light on questions of sampling, comparability and methodology.
In the RRFSS provincial sample, you basically have the equivalent of something that starts to approach the PPS [probability proportional to size] sample. The chances of being interviewed are not influenced by what health unit you are in, which is not the case, for example, for … the regular RRFSS survey. So if your goal is to maximize your provincial estimates, then the right sample is something that approaches PPS. If your goal is to maximize your ability to make comparisons between health units, then the right sample is something where sample size in each health unit is approximately the same. The goals of the main RRFSS and RRFSS provincial sample were different. The sample size used was appropriate to each.

-RRFSS stakeholder

Random digit dialling in itself is biased towards those who are older, higher incomes, females, so there is becoming a view, at least in my health unit, that ‘why am I interested in the older, upper class of females, it’s not representative of the general population, so what’s the point in spending our money doing this survey’. So in that sense I think that it’s very important for RRFSS to start exploring other data collection methods and potentially consider a mixed mode survey approach.

-RRFSS-participating health unit

Most of the concerns related to sampling, comparability and methodology apply to RRFSS overall, as well as to the provincial sample in particular. These issues have also been identified in previous evaluations of RRFSS (RRFSS Evaluation Group, 2006). Telephone interviewing has associated limitations, and the nature of the population that is accessed by this method was mentioned by informants, as noted in the quotation above. The sample size of the provincial sample was also identified by some key informants as a potential concern, which has been answered to some extent by the comparability analyses described in the section below. Sample size calculations were done prior to deciding on the sample size of 1800, with the additional considerations of funding limitations. More information on the sample size and other methodological aspects of the PSPP can be found in the technical documentation provided in Appendix F.

Conclusions on the Support for an Ongoing Provincial Sample

The value of an ongoing provincial sample is acknowledged by the vast majority of those consulted, particularly if the sample would be used to generate estimates for which there is no other source (e.g., emerging issues). A provincial sample would add value to RRFSS and to the surveillance landscape in Ontario, and options to continue to collect a provincial sample should be explored. Methodological issues would need to be considered as part of any future steps toward a provincial sample.
Comparative Assessment of Provincial Estimates

Purpose of the Assessment

The purpose of the comparative assessment was to determine if the RRFSS provincial sample provided comparable provincial estimates through comparisons with other sources of provincial data including the 2011 Census values, estimates from the Canadian Community Health Survey (CCHS) and pseudo-provincial estimates generated from the 2010 and 2011 RRFSS local data.

Methodology

Data Sources

In addition to the PSPP, the data sources used for this analysis were:

- 2011 Census, Statistics Canada
- Canadian Community Health Survey (CCHS), 2010. Statistics Canada Share File, Ontario Ministry of Health and Long Term Care
- 2010 and 2011 RRFSS local data for all RRFSS-participating health units. (Note that the 2010 RRFSS data include data from the City of Toronto but the 2011 data do not).

The PSPP, RRFSS, and CCHS surveys were all designed to support health surveillance programs through the collection of information from residents in private dwellings related to health status, health behaviours and health determinants in order to provide reliable, timely estimates at the health unit or health region (HR) level. However, when comparing results from the PSPP or RRFSS local data to the CCHS it is important to acknowledge important differences in the sample designs and weighting methodologies used.

Sample Design

The PSPP targeted Ontario residents age 18 and over with sampling at the health unit level with sample size proportionate to the health unit population. The RRFSS local data collection covered residents aged 18 and over from Ontario health units who participated in RRFSS in 2010 or 2011 with sample sizes determined by individual RRFSS-participating health units. For the PSPP and RRFSS local data collection the entire sample of households was drawn from a Random Digit Dialling (RDD) sampling frame and all interviews were conducted by telephone in English or French.
The CCHS targeted Canadian residents aged 12 and over with sampling at the health region (HR) level and the sample size per HR determined by a multi-step process that insured a minimum number of respondents per HR and allocation proportional to the population size by province and HR. The CCHS used three sampling frames to select the sample of households: an area frame of households, a list frame of telephone numbers, and a very small sample from a RDD sampling frame. Interviews were conducted either in-person or over the telephone in the preferred language of the respondent.

### Weighting

The PSPP and RRFSS samples were weighted using household weights to adjust for unequal probability of respondent selection within the household and health unit population weights to match the population distribution among health units. No further weights or adjustments were applied.

The CCHS applied a complex weighting methodology that includes applying design weights, non-response adjustment, Winsorization and calibration to match Census-based population projection counts and age and sex distribution by HR. Along with files containing all CCHS respondents, a share file is created which contains only CCHS respondents who have agreed to share their data (>90%) and a share weight is calculated for this file.

Additional information on sampling and weighting is included in the PSPP Technical Document (Appendix F), and in the Canadian Community Health Survey (CCHS) Annual Component User guide, 2010 and in the 2009–2010 Microdata files, June 2011 (Statistics Canada, 2011).

### Indicator Selection and Calculation

The PSPP included 29 topic-specific survey modules chosen from the module inventory from the existing RRFSS questionnaire, including both socio-demographic variables and health indicators. The PSPP content selected included a number of indicators also included on the CCHS to allow for comparison of estimates between the two surveys. Table 3 summarizes the RRFSS modules from the PSPP that were included in this analysis and the availability of comparable indicators in the other data sources.

All indicators used in this analysis were calculated to ensure that they were as comparable as possible between the different data sources. In some cases, the indicators used were derived using methods that were not standard for one or more of the data sources. For this reason, the estimates in this report should not be compared to other published RRFSS or CCHS results as they may have been derived using different methods. The PSPP and RRFSS local data cover Ontario adults aged 18 years and over, so CCHS and Census indicators were also calculated for this population. Appendix G provides a summary of the indicators including definitions and derived variables.
### Table 3. Health Indicators and Socio-demographic Characteristics by Data Source

<table>
<thead>
<tr>
<th>RRFSS Modules</th>
<th>PSPP 2011 (18+) Ontario</th>
<th>CCHS 2010 (18+) Ontario Share File</th>
<th>RRFSS 2011 (18+) 19 Ontario HUs (excludes Toronto)</th>
<th>RRFSS 2010 (18+) 20 Ontario HUs (includes Toronto)</th>
<th>Census 2011 (18+)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Health Indicators</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Body Mass Index</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Colorectal Screening (age 50–74)</td>
<td>✓</td>
<td>✓</td>
<td>✓*</td>
<td>**</td>
<td></td>
</tr>
<tr>
<td>Fruit &amp; Vegetable Consumption</td>
<td>✓</td>
<td>✓</td>
<td>✓*</td>
<td>**</td>
<td></td>
</tr>
<tr>
<td>General Health</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Tobacco Use by Respondent (age 20+)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Socio-demographic Characteristics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Sex</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Marital Status (age 25+)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Education (age 25–54)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Employment Status (age 18–75)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Children aged under 18 in the Household</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Country of Birth/Immigrant Status</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Total Sample Size</strong></td>
<td>1,897</td>
<td>18,521</td>
<td>23,289</td>
<td>23,931</td>
<td></td>
</tr>
</tbody>
</table>

*For Colorectal Screening and Fruit and Vegetable Consumption, 13 of the 19 RRFSS-participating health units included these modules on the 2011 RRFSS.

**For Colorectal Screening and Fruit and Vegetable Consumption, fewer than 5 RRFSS-participating health units included these modules in the 2010 RRFSS, so the 2010 data for these modules were excluded from the analysis.
Analysis

All analysis was conducted using the SPSS version 19 Complex Samples module. Survey design-based standard errors were calculated for all estimates from the PSPP, RRFSS and CCHS surveys using the Taylor series linearization method (Heeringa et al., 2010) used by this module. Bootstrapped standard errors were also calculated for the CCHS indicators using bootstrap weights provided with the CCHS share file. Negligible differences were found between the CCHS variance estimates generated from the two methods, so for simplicity all further analysis, including the regression analysis, was conducted using the Taylor series linearization method.

Prevalence estimates and 95% confidence intervals were calculated for all indicators from PSPP, RRFSS and CCHS data (see Table 3). For all indicators, ‘not applicable’, ‘don’t know’, and ‘refused’ responses were excluded from the analysis.

Comparisons were made between estimates for health indicators and socio-demographic characteristics from the different data sources using both weighted and unweighted data. The statistical significance of each difference was determined. For comparisons with Census data, exclusion of the Census value from the 95% confidence interval of the survey estimate was considered to constitute a significant difference. For the comparison of survey results, in addition to comparing confidence intervals, differences in the point estimates for each level of categorical health indicator or socio-demographic factor were tested using the Pearson chi-square test. For socio-demographic variables with more than two levels, the weighted distribution of respondents across the indicators’ categories was also compared between data sources using the Pearson chi-square test.

For all comparisons a p<.05 level of significance was used to assess the statistical significance of the difference. This is the significance level customarily reported for both RRFSS and CCHS results. The p values were included in the tables so that the impact of using different significance thresholds could be assessed.

To explore how the differences between the PSPP and CCHS estimates for the fruit and vegetable consumption and tobacco use indicators were associated with the socio-demographic characteristics of the PSPP and CCHS samples, logistic regression was carried out for both indicators with seven socio-demographic variables and the data source (PSPP/CCHS) as the independent variables, including the interaction between the socio-demographic variables and data source.

Results

PSPP 2011 and CCHS 2010 compared to 2011 Census

The distribution of age and sex in the PSPP and CCHS samples were compared to the 2011 Census data for Ontario residents aged 18 years and over. All estimates from the PSPP, both weighted and unweighted, were significantly different from the Census for all age groups and sex (Tables 4 & 5, Figures 12&13). The PSPP sample under-represents younger adults and males, and conversely over-represents older adults, seniors and females. The unweighted CCHS estimates were also significantly different from the Census, under-representing the same demographic groups as the PSPP. However, the weighted CCHS estimates were much closer to the Census values, with no difference in sex but with two of the four age groups showing significant differences. This is not
Comparative Assessment of Provincial Estimates

It was surprising as the CCHS weighting included post-stratification calibration to match Census-derived population projection counts by age and sex. No such adjustment was applied to the PSPP sample.

### Table 4. Age and Sex (weighted), PSPP, CCHS and Census

<table>
<thead>
<tr>
<th>Age (18+)</th>
<th>PSPP 2011</th>
<th>CCHS 2010</th>
<th>Census 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>18–24</strong></td>
<td>8.6* (7.1–10.5)</td>
<td>12.5 (11.7–13.4)</td>
<td>11.8</td>
</tr>
<tr>
<td><strong>25–44</strong></td>
<td>26.8* (24.6–29.0)</td>
<td>35.0* (33.7–36.3)</td>
<td>33.3</td>
</tr>
<tr>
<td><strong>45–64</strong></td>
<td>43.8* (41.3–46.3)</td>
<td>35.6 (34.2–37.0)</td>
<td>36.6</td>
</tr>
<tr>
<td><strong>65+</strong></td>
<td>20.8* (19.0–22.8)</td>
<td>16.9* (16.2–17.7)</td>
<td>18.5</td>
</tr>
<tr>
<td><strong>Sex (18+)</strong></td>
<td><strong>18–24</strong></td>
<td><strong>25–44</strong></td>
<td><strong>45–64</strong></td>
</tr>
<tr>
<td>Male</td>
<td>41.7* (39.3–44.1)</td>
<td>48.7 (47.3–50.1)</td>
<td>48.1</td>
</tr>
<tr>
<td>Female</td>
<td>58.3* (55.9–60.7)</td>
<td>51.3 (49.9–52.7)</td>
<td>51.9</td>
</tr>
</tbody>
</table>

* Significantly different from Census value. The difference was considered significant if the 95% confidence interval of the PSPP or CCHS estimate did not include the Census value.
Table 5.  Age and Sex (unweighted), PSPP, CCHS and Census

<table>
<thead>
<tr>
<th>Age (18+)</th>
<th>PSPP 2011 Estimate (%) and 95% CI</th>
<th>CCHS 2010 Estimate (%) and 95% CI</th>
<th>Census 2011 Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>18–24</td>
<td>5.8* (4.8–7.0)</td>
<td>9.6* (9.2–10.1)</td>
<td>11.8</td>
</tr>
<tr>
<td>25–44</td>
<td>25.8* (23.9–27.9)</td>
<td>27.8* (27.2–28.5)</td>
<td>33.3</td>
</tr>
<tr>
<td>45–64</td>
<td>42.7* (40.4–45.0)</td>
<td>33.2* (32.6–33.9)</td>
<td>36.3</td>
</tr>
<tr>
<td>65+</td>
<td>25.7* (23.8–27.7)</td>
<td>29.3* (28.6–30.0)</td>
<td>18.5</td>
</tr>
<tr>
<td>Sex (18+)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>39.9* (37.7–42.1)</td>
<td>43.8* (43.0–44.5)</td>
<td>48.1</td>
</tr>
<tr>
<td>Female</td>
<td>60.1* (57.9–62.3)</td>
<td>56.2* (55.5–57.0)</td>
<td>51.9</td>
</tr>
</tbody>
</table>

* Significantly different from Census value. The difference was considered significant if the 95% confidence interval of the PSPP or CCHS estimate did not include the Census value.

Figure 12.  Age Distribution (weighted), PSPP, CCHS and Census

* Significantly different from Census value. The difference was considered significant if the 95% confidence interval of the PSPP or CCHS estimate did not include the Census value.
Figure 13. Sex (weighted), PSPP, CCHS and Census

* Significantly different from Census value. The difference was considered significant if the 95% confidence interval of the PSPP or CCHS estimate did not include the Census value.

**PSPP 2011 compared to CCHS 2010**

**Socio-demographic Characteristics**

PSPP and CCHS were compared using prevalence estimates for different categories of age, sex, marital status, education, employment, children living in the household and immigration status. With the exception of education, the weighted distribution of respondents across categories of all these variables was significantly different between the PSPP and CCHS at the p<.05 level. Significant differences were seen in point estimates for all levels of the variables, again with the exception of education and also the separated/widowed/divorced category of marital status (Table 6 & Figure 14). Changing the significance level to p<.01 would result in two fewer significant differences in point estimates (i.e., percent married/common law, and percent of households with/without children).

Compared to the CCHS 2010 (p<.05), the PSPP had:

- a lower proportion of respondents aged 18–44 years and a higher proportion of respondents aged 45+;
- a lower proportion of males and a higher proportion of females;
- a lower proportion of singles and a higher proportion of married/common-law, but a similar proportion of separated/widowed/divorced;
- similar proportions of respondents with secondary school education or less and more than secondary school;
- a lower proportion of employed and a higher proportion of not employed;
- a lower proportion of households with children and a higher proportion of households without children; and
- a lower proportion of recent or long-term immigrants and a higher proportion of Canadian-born.
Given that many health behaviours and outcomes are associated with socio-demographic characteristics, the differences in the socio-demographic make-up of the weighted PSPP and CCHS samples may contribute to differences between the health indicator estimates from the two surveys.

### Table 6. Socio-demographic Variables (weighted), PSPP and CCHS

<table>
<thead>
<tr>
<th>Age (18+)</th>
<th>PSPP 2011</th>
<th>CCHS 2010</th>
<th>PSPP vs CCHS</th>
</tr>
</thead>
<tbody>
<tr>
<td>18–24</td>
<td>8.6 (7.1–10.5)</td>
<td>12.5 (11.7–13.4)</td>
<td>.000*</td>
</tr>
<tr>
<td>25–44</td>
<td>26.8 (24.6–29.0)</td>
<td>35.0 (33.7–36.3)</td>
<td>.000*</td>
</tr>
<tr>
<td>45–64</td>
<td>43.8 (41.3–46.3)</td>
<td>35.6 (34.2–37.0)</td>
<td>.000*</td>
</tr>
<tr>
<td>65+</td>
<td>20.8 (19.0–22.8)</td>
<td>16.9 (16.2–17.7)</td>
<td>.000*</td>
</tr>
<tr>
<td>Sex (18+)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>41.7 (39.3–44.1)</td>
<td>48.7 (47.3–50.1)</td>
<td>.000*</td>
</tr>
<tr>
<td>Female</td>
<td>58.3 (55.9–60.7)</td>
<td>51.3 (49.9–52.7)</td>
<td></td>
</tr>
<tr>
<td>Marital Status (25+)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married/ Common-law</td>
<td>74.3 (72.2–76.4)</td>
<td>71.9 (70.6–73.1)</td>
<td>.048*</td>
</tr>
<tr>
<td>Separated/ Widowed/ Divorced</td>
<td>16.2 (14.7–17.9)</td>
<td>14.6 (13.8–15.6)</td>
<td>.087</td>
</tr>
<tr>
<td>Single</td>
<td>9.4 (8.0–11.0)</td>
<td>13.5 (12.6–14.4)</td>
<td>.000*</td>
</tr>
<tr>
<td>Education (25–54)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;= Secondary School</td>
<td>24.0 (21.1–27.1)</td>
<td>24.1 (22.3–26.1)</td>
<td>.952</td>
</tr>
<tr>
<td>&gt; Secondary School</td>
<td>76.0 (72.9–78.9)</td>
<td>75.9 (73.9–77.7)</td>
<td></td>
</tr>
</tbody>
</table>

*PSPP significantly different from CCHS (p<.05)
Table 6.  (continued) Socio-demographic Variables (weighted), PSPP and CCHS

<table>
<thead>
<tr>
<th>Employment Status (18–75)</th>
<th>PSPP 2011</th>
<th>CCHS 2010</th>
<th>PSPP vs CCHS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employed</td>
<td>63.6</td>
<td>69.6</td>
<td>.000*</td>
</tr>
<tr>
<td></td>
<td>(61.0–66.1)</td>
<td>(68.1.1–70.9)</td>
<td></td>
</tr>
<tr>
<td>Not</td>
<td>36.4</td>
<td>30.4</td>
<td></td>
</tr>
<tr>
<td>Employed</td>
<td>(33.9–39.0)</td>
<td>(29.1–31.7)</td>
<td></td>
</tr>
<tr>
<td>Children under 18 in the Household</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>31.7</td>
<td>34.6</td>
<td>.046*</td>
</tr>
<tr>
<td></td>
<td>(29.5–34.1)</td>
<td>(33.1–36.0)</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>68.3</td>
<td>65.4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(65.9–70.5)</td>
<td>(64.0–66.9)</td>
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</tr>
<tr>
<td>Immigrant Status (18+)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recent Immigrant</td>
<td>2.0+</td>
<td>4.6</td>
<td>.000*</td>
</tr>
<tr>
<td></td>
<td>(1.4–2.9)</td>
<td>(3.9–5.3)</td>
<td></td>
</tr>
<tr>
<td>Long-term Immigrant</td>
<td>24.1</td>
<td>29.9</td>
<td>.000*</td>
</tr>
<tr>
<td></td>
<td>(22.1–26.2)</td>
<td>(28.5–31.4)</td>
<td></td>
</tr>
<tr>
<td>Canadian-born</td>
<td>73.9</td>
<td>65.5</td>
<td>.000*</td>
</tr>
<tr>
<td></td>
<td>(71.7–76.0)</td>
<td>(64.1–67.0)</td>
<td></td>
</tr>
</tbody>
</table>

* PSPP significantly different from CCHS (p<.05)
+ CV = 19.2, high variability, interpret with caution

Figure 14.  Socio-demographic Variables (weighted), PSPP and CCHS
Figure 14. **(continued) Socio-demographic Variables (weighted), PSPP and CCHS**

### Marital Status

<table>
<thead>
<tr>
<th>Marital Status</th>
<th>PSPP 2011</th>
<th>CCHS 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Married/C-L</td>
<td>74*</td>
<td>72</td>
</tr>
<tr>
<td>Sep/Wid/Div</td>
<td>16</td>
<td>15</td>
</tr>
<tr>
<td>Single</td>
<td>3*</td>
<td>14</td>
</tr>
</tbody>
</table>

### Highest Education

<table>
<thead>
<tr>
<th>Education Level</th>
<th>PSPP 2011</th>
<th>CCHS 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secondary School or less</td>
<td>24</td>
<td>24</td>
</tr>
<tr>
<td>More than Secondary</td>
<td>76</td>
<td>76</td>
</tr>
</tbody>
</table>

### Employment Status

<table>
<thead>
<tr>
<th>Employment Status</th>
<th>PSPP 2011</th>
<th>CCHS 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employed</td>
<td>64*</td>
<td>70</td>
</tr>
<tr>
<td>Not Employed</td>
<td>36*</td>
<td>30</td>
</tr>
</tbody>
</table>

### Children Under 18 in the Household

<table>
<thead>
<tr>
<th>Household Status</th>
<th>PSPP 2011</th>
<th>CCHS 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>32*</td>
<td>35</td>
</tr>
<tr>
<td>No</td>
<td>68*</td>
<td>65</td>
</tr>
</tbody>
</table>

### Immigration Status

<table>
<thead>
<tr>
<th>Immigration Status</th>
<th>PSPP 2011</th>
<th>CCHS 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recent</td>
<td>5</td>
<td>24*</td>
</tr>
<tr>
<td>Long-term</td>
<td>74*</td>
<td>66</td>
</tr>
</tbody>
</table>

*PSPP significantly different from CCHS (p<.05)

+ CV= 19.2, high variability, interpret with caution
**Health Indicators**

PSPP and CCHS 2010 were compared for indicators of BMI, colorectal screening, fruit and vegetable (F&V) consumption, general health and tobacco use (Table 7). For colorectal screening and general health the estimates from the two surveys were not significantly different. For the BMI, F&V consumption and tobacco use indicators the estimates from the PSPP were significantly different from the CCHS estimates (p<.05) (Table 7 and Figure 15). These differences persisted at a significance level of p<.01.

Compared to the CCHS 2010 (p<.05), the PSPP had:

- a higher proportion of obese or overweight adults;
- a similar proportion of adults aged 50–74 who had colorectal screening;
- a lower proportion of adults who consume F&V 5+ times per day;
- a similar proportion of adults who reported excellent/very good general health; and
- a lower proportion of current smokers (age 20+)

<table>
<thead>
<tr>
<th>Table 7. Health Indicators (weighted), PSPP and CCHS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<tr>
<td></td>
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<tr>
<td>PSPP 2011</td>
</tr>
<tr>
<td>-------------------------</td>
</tr>
<tr>
<td>Estimate (%) and 95% CI</td>
</tr>
<tr>
<td>BMI:</td>
</tr>
<tr>
<td>Overweight/Obese (age 18+)</td>
</tr>
<tr>
<td>Colorectal Screening:</td>
</tr>
<tr>
<td>Screened using FOBT in past 2 years (age 50–74)</td>
</tr>
<tr>
<td>Fruit and Vegetable Consumption:</td>
</tr>
<tr>
<td>F&amp;V 5+ times per day (age 18+)</td>
</tr>
<tr>
<td>Self-Perceived General Health:</td>
</tr>
<tr>
<td>Excellent/Very Good (age 18+)</td>
</tr>
<tr>
<td>Tobacco Use:</td>
</tr>
<tr>
<td>Current Smoker (daily/occasional) (age 20+)</td>
</tr>
</tbody>
</table>

*PSPP significantly different from CCHS (p<.05)

+ Confidence intervals at the 95% level can overlap to a modest extent, but a significant difference (p≤.05) between parameter estimates can still be registered for two independent samples: see Wolfe and Hanley (2002), and more generally, Schenker and Gentleman (2001). Conversely, non-overlapping confidence intervals indicate statistical significance for some predetermined probability level.
When comparisons were made on the basis of unweighted data, the significant differences observed between the PSPP and CCHS for F&V consumption and tobacco use persisted (Table 8). The unweighted estimates for the prevalence of overweight or obese adults did not differ significantly between the PSPP and CCHS, as the weighted estimates had. The different weighting methods employed for the two surveys may therefore be one factor leading to the difference in BMI between the weighted samples.

Table 8. Health Indicators (unweighted), PSPP and CCHS

<table>
<thead>
<tr>
<th>Health Indicator</th>
<th>PSPP 2011 Estimate (%) and 95% CI</th>
<th>CCHS 2010 Estimate (%) and 95% CI</th>
<th>PSPP vs CCHS P value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BMI:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overweight/Obese (age 18+)</td>
<td>57.1 (54.8–59.4)</td>
<td>55.6 (54.9–56.3)</td>
<td>.225</td>
</tr>
<tr>
<td><strong>Colorectal Screening:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Screened using FOBT in past 2 years (age 50–74)</td>
<td>33.8 (29.9–37.9)</td>
<td>33.7 (32.6–34.7)</td>
<td>.959</td>
</tr>
<tr>
<td><strong>Fruit and Vegetable Consumption:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F&amp;V 5+ times per day (age 18+)</td>
<td>35.2 (33.0–37.4)</td>
<td>41.9 (41.2–42.6)</td>
<td>.000*</td>
</tr>
<tr>
<td><strong>Self-Perceived General Health:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Excellent/Very Good Health (age 18+)</td>
<td>58.2 (55.9–60.4)</td>
<td>55.6 (54.9–56.3)</td>
<td>.031*+</td>
</tr>
<tr>
<td><strong>Tobacco Use:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current Smoker (daily/occasional) (age 20+)</td>
<td>15.8 (14.2–17.6)</td>
<td>20.4 (19.8–20.9)</td>
<td>.000*</td>
</tr>
</tbody>
</table>

*PSPP significantly different from CCHS (p<.05)
+ See footnote to Table 7
PSPP 2011 compared to CCHS 2010 Telephone Sample

The CCHS 2010 sample consisted of 63% telephone interviews, 35% in-person interviews and 1% that combined both methods. The PSPP was conducted only by telephone. To determine if the CCHS mixed mode of interviewing might contribute to differences between the PSPP and CCHS estimates, the PSPP health indicator estimates were compared to estimates derived from the CCHS telephone sample only (Table 9).

All three indicators that showed significant differences between the PSPP and the total CCHS 2010 sample (i.e., overweight/obese, F&V 5+/day, and current smoker) also showed significant differences when comparing the PSPP to the CCHS 2010 telephone sample alone. The CCHS use of in-person interviews did not appear to contribute to the differences between the estimates for the PSPP and CCHS samples.

<table>
<thead>
<tr>
<th>Health Indicator</th>
<th>PSPP 2011 Estimate (%) and 95% CI</th>
<th>CCHS 2010 Telephone Sample Estimate (%) and 95% CI</th>
<th>PSPP vs CCHS P value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BMI:</strong></td>
<td>Overweight/Obese (age 18+)</td>
<td>56.9 (54.3–59.4)</td>
<td>52.5 (50.7–54.3)</td>
</tr>
<tr>
<td><strong>Colorectal Screening:</strong></td>
<td>Screened using FOBT in past 2 years (age 50–74)</td>
<td>34.6 (30.3–39.1)</td>
<td>28.8 (26.4–31.3)</td>
</tr>
<tr>
<td><strong>Fruit and Vegetable Consumption:</strong></td>
<td>F&amp;V 5+ times per day (age 18+)</td>
<td>35.1 (32.7–37.5)</td>
<td>41.2 (39.4–43.0)</td>
</tr>
<tr>
<td><strong>Self-Perceived General Health:</strong></td>
<td>Excellent/Very Good (age 18+)</td>
<td>59.9 (57.5–62.3)</td>
<td>59.9 (58.2–61.6)</td>
</tr>
<tr>
<td><strong>Tobacco Use:</strong></td>
<td>Current Smoker (daily/occasional) (age 20+)</td>
<td>16.1 (14.3–18.1)</td>
<td>18.7 (17.3–20.1)</td>
</tr>
</tbody>
</table>

*PSPP significantly different from CCHS (p<.05)
+ See footnote to Table 7

RRFSS 2010 and 2011 pseudo-provincial samples compared to CCHS 2010

To determine if the PSPP estimates provided an improvement over estimates from pseudo-provincial samples based on the RRFSS local data, pseudo-provincial estimates from RRFSS 2011 (19 HUs) and RRFSS 2010 (20 HUs) were compared to the CCHS 2010 health indicator estimates (Table 10 and Figure 16). Note that RRFSS 2010 included the City of Toronto, while RRFSS 2011 did not. Note also that 2010 RRFSS data were available on only 3 of the 5 health indicators.

The RRFSS 2011 pseudo-provincial estimates were significantly different from those from the CCHS for four of the five health indicators, one more than in the PSPP comparison with the CCHS. The PSPP estimate for self-perceived general health was closer to the CCHS estimate than was the
estimate from the RRFSS 2011 pseudo-provincial sample.

The PSPP did not show any improvement over the RRFSS 2010 pseudo-provincial sample based on the three health indicators that were compared. In fact, while the PSPP estimate for overweight or obese was significantly different than the CCHS estimate, the RRFSS 2010 estimate was not. The inclusion of Toronto in the RRFSS 2010 sample may have improved its comparability to the CCHS for this indicator.

Table 10. Health Indicators (weighted), PSPP, RRFSS pseudo-provincial samples and CCHS

<table>
<thead>
<tr>
<th></th>
<th>PSPP 2011</th>
<th>RRFSS 2011 (excludes Toronto)</th>
<th>RRFSS 2010 (includes Toronto)</th>
<th>CCHS 2010</th>
<th>PSPP vs CCHS</th>
<th>RRFSS 2011 vs CCHS</th>
<th>RRFSS 2010 vs CCHS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BMI:</strong> Overweight/Obese (age 18+)</td>
<td>56.9 (54.3–59.4)</td>
<td>56.1 (55.2–57.1)</td>
<td>54.2 (53.2–55.3)</td>
<td>53.0 (51.6–54.4)</td>
<td>.009*</td>
<td>.000*</td>
<td>.165</td>
</tr>
<tr>
<td><strong>Colorectal Screening:</strong> Screened using FOBT in past 2 years (age 50–74)</td>
<td>34.6 (30.3–39.1)</td>
<td>31.3 (29.7–32.9)</td>
<td>n/a</td>
<td>30.5 (28.4–32.7)</td>
<td>.099</td>
<td>.588</td>
<td>n/a</td>
</tr>
<tr>
<td><strong>Fruit and Vegetable Consumption:</strong> F&amp;V 5+ times per day (age 18+)</td>
<td>35.1 (32.7–37.5)</td>
<td>34.8 (33.6–36.0)</td>
<td>n/a</td>
<td>41.4 (40.0–42.9)</td>
<td>.000*</td>
<td>.000*</td>
<td>n/a</td>
</tr>
<tr>
<td><strong>Self-Perceived General Health:</strong> Excellent/Very Good (age 18+)</td>
<td>59.9 (57.5–62.3)</td>
<td>57.8 (56.9–58.7)</td>
<td>58.4 (57.4–59.5)</td>
<td>59.6 (58.2–60.9)</td>
<td>.793</td>
<td>.033*</td>
<td>.199</td>
</tr>
<tr>
<td><strong>Tobacco Use:</strong> Current Smoker (daily/occasional) (age 20+)</td>
<td>16.1 (14.3–18.1)</td>
<td>16.3 (15.7–17.0)</td>
<td>15.9 (15.0–16.8)</td>
<td>20.1 (19.0–21.2)</td>
<td>.001*</td>
<td>.000*</td>
<td>.000*</td>
</tr>
</tbody>
</table>

*significantly different from CCHS (p<.05)
Summary of Comparative Analysis

- The PSPP 2011 estimates for age and sex, both weighted and unweighted, differ significantly from the Census 2011.
- The PSPP 2011 weighted estimates differed significantly from the CCHS 2010 for 6 of the 7 socio-demographic variables compared. There was no significant difference for education.
- The PSPP 2011 weighted estimates differed significantly from the CCHS 2010 for 3 of the 5 health indicators compared: percent overweight/obese, percent eating F&V 5+ times per day, and percent current smokers. There were no significant differences for the colorectal screening or self-perceived general health indicators.
- The mixed mode of interviewing in the CCHS 2010 did not appear to contribute to the differences between the PSPP 2011 and CCHS 2010 estimates.
- In terms of comparability to the CCHS 2010, the PSPP 2011 estimates provided an improvement over estimates from the RRFSS 2011 pseudo-provincial estimates for only the self-perceived general health indicator and did not show any improvement over the RRFSS 2010 estimates for the more limited three health indicators that were compared.
Factors Associated with Differences Between PSPP and CCHS Estimates for Fruit and Vegetable Consumption and Tobacco Use: Logistic Regression Analysis

The prevalence estimates obtained using CCHS and PSPP data were more significantly different for Fruit and Vegetable (F&V) Consumption and Tobacco Use (Smoker Type) than for other health indicators. One possible reason for these discrepancies – differences in the distribution of socio-demographic factors between respondents in the two surveys – was examined in this exploratory analysis.

The proportions of respondents classified as high or low F&V consumers were modeled as a function of the following socio-demographic variables: age, sex, marital status, education level, children in the household, employment status and immigrant status. Similarly, the proportions of respondents classified as current smoker, former smoker or never smoker were modeled as a function of the same set of socio-demographic determinants. Each model was specified separately for the two data sets (independent), and then a composite model based on the combined data from both data sets was specified for each indicator. Weighted logistic regression procedures were used in estimating each of the models.

The results indicate that age and sex had consistent, strong and statistically significant effects in predicting the outcomes of the dependent variables in both of independent and composite models. In addition, marital status and education level – and, to a lesser degree, employment status and immigrant status – had consistent effects, but these could be attributed to measurement error. The presence or absence of children in the household had varying effects, and these were likely linked to age and sex differences between the two surveys.

Since the major effects of important socio-demographic variables were strong and consistent across both source surveys, inferences made with respect to these effects using either data set would be largely equivalent. For the models estimated in this analysis, where there were differences between the two surveys in the modeled effects of socio-demographic factors on the outcome, these were related to variables used in the calibration of the surveys, i.e., to the post-stratification age and sex distribution adjustments.

Detailed regression analysis results are summarized in Appendix H.

Practical Impact

The difference in the age and sex distribution between the PSPP sample and the Census population will have most impact on the accuracy of estimates for health indicators that showed significant differences between males and females and/or different age groups.

Although statistically significant differences between the PSPP and CCHS data were found in three of the five health indicators compared, the practical significance of these differences is debatable. It is important to consider if the magnitude of these differences affects the utility of the PSPP data at the user level. Whether or not the differences are deemed “acceptable” will no doubt vary between users. It will depend on the context surrounding the need for information (e.g., requirements for precision and timeliness), and it will depend also on how the information will be used. For example, the differences, if consistent, will not limit the ability of the datasets to describe trends over time for the indicators in question.
Conclusions on the Comparative Assessment of Provincial Estimates

Estimates from the PSPP and CCHS were not significantly different for some estimates and were significantly different for others. Although the pseudo-provincial estimates based on the combined RRFSS local data appear to have similar comparability to the CCHS as the PSPP, the pseudo-provincial sample will change every year depending on RRFSS participation so cannot provide provincial estimates that are comparable over time.

The statistically significant differences between the PSPP and CCHS estimates do not necessarily have substantial impact on the utility of the estimates for program planning and evaluation. Overall, the estimates were in the same order of magnitude and the effects of most socio-demographic variables were consistent across the two surveys.

The differences found between the PSPP and CCHS estimates point to the need for a provincial RRFSS comparator for RRFSS local data and indicate that caution should be exercised when using the CCHS as a provincial comparator for RRFSS local estimates.
Perceived Opportunities, Challenges, and Next Steps

Many interviewees and online survey respondents made comments that shed light on the opportunities and challenges associated with a provincial sample, and provided suggestions for what the next steps should be. This section of the report brings together these comments and suggestions from the key informants and survey respondents, leading toward concluding remarks and recommendations for the evaluation overall.

A provincial sample is considered to be valuable to some extent for Ontario health units, questions of cost, payer, methodology, content, purpose, and partnership potential then come into the thinking about whether a provincial sample is a viable option to pursue.

Cost

Funding is the key challenge, both to cover the costs of collecting the provincial sample, and also for resourcing to support the administration of a provincial sample and to support a central analysis function. Previous evaluations of RRFSS (RRFSS Evaluation Group, 2006) have raised the same issues: RRFSS is costly for health units to support out of their budgets, and RRFSS requires epidemiologist and/or data analyst support at the local health unit level to analyze the data and to participate in the management and coordination of RRFSS. For some health units, these demands have already led to ceasing participation in RRFSS or not being able to participate in RRFSS at all, although they see value in participation.

Comments from non-RRFSS-participating health units in the online survey speak to the cost challenge.

We do not participate in the RRFSS because cost continues to be a barrier. Until a way is found to address the cost and secure consistent funding, we are unlikely to participate. This holds true whether or not there is a provincial sample.

Anything that would decrease the cost of participating would increase the likelihood that we would be able to participate.

We had to stop participating because of the high cost. We definitely miss having data on important indicators not addressed by the CCHS or Census.

Cost was also a concern among RRFSS-participating health units, as shown in the following quotation from an interview.
To me, the other challenge … is the cost that’s associated with [a provincial sample]. It’s a little bit more expensive…. The concern for our health unit would be, it does keep going up every year, and is it going to go up again, and again, and again, and that’s a concern because our budget is so tight, and it’s going to be one thing on the chopping block if it keeps going up. It’s easy just to say okay, $60,000 gone, and put it towards something else.

-RRFSS-participating health unit

Although ability to afford RRFSS was a noted challenge, most informants recognized that RRFSS provides good value for money.

We get good bang for our buck in RRFSS, you know, even if it’s not the best source, we still get pretty good data, pretty quick, and we get a lot of data for the money we spend.

-RRFSS-participating health unit

Payer

Some interviewees specifically suggested that Public Health Ontario would be the most obvious source of funding for a provincial level surveillance initiative of this sort, given their mandate to support health units.

PHO is there to support public health in Ontario, so you know, that’s a natural, from my point of view, I truly don’t know if that’s a natural from the RRFSS point of view as well, but it might be behind that. And the other thing is the initial answer from PHO, I don’t know what it would be.

-potential data user or surveillance expert

This [a provincial sample] is the next logical step for RRFSS, as long as it’s well thought through and done in a sustainable manner. This should include collaboration with provincial stakeholders (e.g., PHO).

-online survey respondent

We would support this only if funded outside the RRFSS-participating health units, such as by PHO or MOHLTC. Otherwise, we have no way of continuing to fund a provincial sample. If we have to bear the cost, we are opposed.

-online survey respondent
Perceived Opportunities, Challenges, and Next Steps

**RRFSS is a very valuable system in its current form (that’s why it has lasted as long as it has). A provincial sample that doesn’t interfere with the ability for health units to control their content would only add value. The biggest questions are who will pay for the provincial sample, who will set the content and who will be responsible for analyzing/reporting. This would be a great fit for PHO.**

- online survey respondent

However, a PHO respondent describes PHO’s role with respect to surveillance as being more toward central analytics and making best use of existing data, rather than gathering new data.

**We still always seem to be talking about collection, and I think the focus here [PHO] has moved to how can we get more out of what we have. …I mean, we would of course be open to further dialogue about collection, but the model we're operating under right now is how can we use our existing resources as efficiently as possible to give back to the whole system, and … the bigger resources right now are about analysis.**

-Public Health Ontario key informant (quoted with permission)

The possibility of seeking support for central analysis was also raised by a key informant, as shown in the following quotation.

**I think the natural add-on, which would be nice, is what Public Health Ontario is doing with mapping and graphing the results from CCHS. It would be lovely to do something similar with RRFSS data, so then I wouldn’t have to bother doing some of the analysis I have to do. Well, at least of the core data, that… would make the RRFSS data even more useful. But whether they’re willing to do that, or we’re willing to do that, I don’t know.**

-RRFSS-participating health unit

**Methodology**

An alternate approach to collect a provincial sample was suggested by several surveillance experts: combining existing RRFSS data with a separate process to collect data from non-participating health unit areas to ‘fill the gaps’ left by incomplete coverage of the province. In this way, a provincial sample would be available, while making use of existing local data rather than to some extent duplicating the data collection for participating health units in the provincial sample.
Instead of using a provincial sample, I think another approach might be to conduct a sample that covers only the non-participating local health units. This can provide data for the non-participating local health units. For the participating local health units we already have 1200 surveys per year per local health unit, so there’s no need to repeat the numbers there in a provincial sample. Statistically, then, data from participating and non-participating health units can be combined into a comprehensive, complete provincial sample. This provides the justification for putting resources into the needed areas, i.e., the non-participating health units. That’s perhaps another way of conducting a provincial sample.

-potential data user or surveillance expert

From what you’ve just described to me, if somebody had come back to us with the most efficient way to get estimates for the province, given that we were already collecting data for these health units, I don’t think they would have come up with this model.

Interviewer: Do you have a sense of what it would look like?

Well you’d probably reuse some of the sample that somebody’s already paying for, and then think about how else you need to augment that. You would try to figure out “how could I get the most power out of this per dollar”.

-potential data user or surveillance expert

This option, of getting a provincial sample by collecting data for non-participating health unit areas and combining it with existing RRFSS data, may be efficient and makes sense from a methodological point of view. However, this approach would mean that non-RRFSS-participating health units would have data for their areas at no cost, whereas participating health units would be paying for their data. Such an obviously inequitable system would be unlikely to succeed, as it creates a strong disincentive for RRFSS-participating health units to continue to participate.

For the participating health units, if they chip in let’s say $500 a year for that, and the non-participating health units provide absolutely no money, and then we have these nicely generated estimates for general health for Ontario that the other non-participating health units can use. The challenge that I see is there’s some inequity. Why should other health units fund a provincial sample that’s not going to be used just by them, but by others?

-RRFSS-participating health unit

As related to other methodological approaches, interviewees commented that for rural health units, a provincial comparator is less important because a provincial estimate would largely reflect the estimate for urban centres, which is a less valuable comparator for rural health units. It was suggested that, rather than a provincial estimate, regional or peer-group estimates might be a more valuable option that might be more valid and reliable than local estimates in some cases, and might perhaps be a more cost-effective option. Also, a provincial sample without the sample size to allow analyses at smaller levels has limited utility for many users.
For certain parameters, rural health unit estimates and provincial estimates are not very comparable (e.g. vulnerable populations; built environment; access).

-Online survey respondent

Part of the problem with those [provincial-level] surveys is that pretty quickly one wants data at a more regional or local level.

-Potential data user or surveillance expert

Another possibility is to bring it down to peer groups of the units left out. … It would be easier to get the sample size, the provincial sample would be less compromised in terms of design effect, because you’d be deviating from equal probability sampling less, because you know, some of these small units don’t add up to a lot of population.

-Potential data user or surveillance expert

Finally, although it is a challenge associated with RRFSS overall and not only the provincial sample, there are limitations associated with using a telephone, landline survey methodology. Advances in survey approaches are emerging, and although new approaches may not be needed for the existing function of RRFSS, the future direction and possible expansion of RRFSS requires that methodological considerations be raised.

I think one of the limitations of everything to do with RRFSS is the reliance on telephone sampling, but we completely understand why they do it, it’s cost effective, with recognized limits. It can’t begin to substitute for measuring validity of some things that you have to go to and take physical measures to get, and has known gaps in terms of who tends not to participate in these surveys, which they share with an enormous number of other data collection vehicles that have to use the same methodology. It’s a complement to other more expensive strategies.

-Potential data user or surveillance expert

With cell phones, with many people not having landlines, it not being under 18, because that’s another thing that people are annoyed with, is that it doesn’t get younger ages and it doesn’t capture a lot of younger people. I think those are some of the drawbacks.

-RRFSS-participating health unit

We need to continue to demonstrate evolution as it relates to our sampling frame and our methods, and we need to continue to be able to demonstrate that we’re on the innovative edge of doing those things, and if we can’t do that, then our future will be at risk.

-RRFSS-participating health unit
Content

It was noted several times that overlap with CCHS makes RRFSS content less valuable; the preference is for CCHS estimates when they are available, and a RRFSS estimate of the same indicator holds only limited (or no) value other than possibly being more timely than CCHS.

The RRFSS provincial sample would be more valuable if it could provide timely information not available from other sources. For my health unit, CCHS is currently the preferred data source for many core health status indicators such as BMI, physical activity and tobacco use. The reason for this is that CCHS provides a larger sample size [for this health unit] (compared to RRFSS) and potentially more accurate estimates at the local and provincial level.

If we were to get involved in RRFSS it would be to be collecting indicators that we don’t currently have access to at the local level, from CCHS or other data sources. … using this as an addition to enhance our local surveillance.

Purpose of the Surveillance System

It was noted that RRFSS cannot meet all surveillance objectives, and may have to focus on identifying what it does well and uniquely, and building on those strengths without risk of compromising the very strengths that make RRFSS valuable.

They could try to optimize what they include, by not duplicating the indicators that are available from other sources. So that they would get better bang for their buck. They could also make sure it continues to be flexible, to respond to emerging issues, both at the health unit level and maybe at the provincial level. … And they should definitely work towards getting stable funding. …I would say they should try to maintain that the model is such that participating health units are the main voices driving it. That may cause some conflict with the funding, depending on where they get the funding from, but I think it’s something that has worked well, they should try to make sure that it continues in the future, because it means that the tool, as a survey, will meet the needs of the health units.

RRFSS is intended to be, first and foremost, a local health unit surveillance system and to provide “pretty good data, pretty quick”. Many key informants noted that they need local data for
Planning, and that estimates that are “pretty good” tend to be adequate for that purpose. RRFSS has been good enough for this purpose and has proven its value over more than 10 years to health units who participate. Being able to track change over time is also important, so the ability to determine and control what goes on, and stays on, the survey, is also very important to the utility of RRFSS.

*I think we really need to emphasize that importance of having the local control. I mean, RRFSS was designed to be a local data collection surveillance system and we’ve been lucky that we’ve not lost that the way things have gone. And, I think it’s really important that we keep that focus and just build on that, don’t replace it.*

-RRFSS stakeholder

*[A provincial estimate] would be an important added value, but the value of RRFSS for us would depend ultimately on how useful and relevant the data overall from the RRFSS modules are for our health unit (ability of the modules to meet our needs, flexibility in choosing our modules, etc.)*

-online survey respondent

*The main value is providing us timely data that we can’t get otherwise in any other survey, such as CCHS, in an economical fashion. Yes, it is costly, but in terms of what it would cost to collect that data on our own, I think that we do have a large quantity of data that we do get for our money, and you know, we have ISR, that they do all the interviewing, they do all the phoning, they do all the data cleaning, you know, all we just do is pay our money, choose our modules, and we get this beautiful, nice, timely dataset to analyze. The downside is some of the quality of the data, just in the inherent biases of the method, that’s a concern, and of course, even though it is economical, sometimes we’re not sure from year to year whether or not we can really still afford it.*

-RRFSS-participating health unit

It should also be noted that, although not a majority view, some key informants questioned whether RRFSS was in fact the right system to be looking to for provincial estimates or for risk factor surveillance at the local or provincial level.

*I don’t see any advantage to potential partners giving money for RRFSS, for a survey they could launch themselves. I guess I don’t see any efficiencies here. You know, why wouldn’t [organizations] just launch their own survey.*

-potential data user or surveillance expert
If I have a specific question that I want answered, that is not on the CCHS... like a short-term evaluation of a program, or a specific issue like water fluoridation, I can do quite a few ad hoc surveys for $50,000. …I don't need most of the RRFSS content to get answers to the few questions that I really want.

-non-RRFSS-participating health unit

One consideration that arose from the interviews relates to the broader contribution of RRFSS as a system. RRFSS has many strengths, and also some limitations, many of which have been identified elsewhere in this report and in previous evaluations of RRFSS. One noteworthy strength, not to be forgotten as RRFSS considers making changes to enhance its value, has to do with the contributions of RRFSS to capacity-building. This point is demonstrated in the following quotations.

I just wonder if there are other things they should do [other than a provincial sample]. …The greatest strength of RRFSS is the people, and maybe if there was some way that we could take the extra time and money and invest in the people, rather than the product, I would support that.

-potential data user or surveillance expert

There's a certain strength that is a kind of knowledge development strength of RRFSS that people don’t often talk about, but I think it actually is important, it’s moved the whole epidemiology system forward in Ontario, by working together and learning, and bringing that learning to a much bigger circle of people, because a lot of what was done here could have been done by three or four well-trained epidemiologists with good resources, but you wouldn't have ended up with many health units having brought their knowledge levels up on risk factor surveillance.

-potential data user or surveillance expert

Partnerships and Other Opportunities for Collaboration

It was suggested by several key informants that future development would need to occur in partnership.

I think they need to explore the opportunities with PHO, that has a mandate to support health units, and they have a strong surveillance team. Also to explore with other partners, whether it’s ICES, or the Ontario Health Quality Council, and have a discussion with them, and also with the ministry, to explore some [possibilities]. It's not just the funding, but what are the opportunities, and build on existing or proposed strategies.

-potential data user or surveillance expert

As an option to consider, interviewees suggested that there may be newly developing surveillance initiatives in the province that would be focusing on behaviour and risk factor surveillance, and that RRFSS should be proactive about being involved in these developments so
that the potential of RRFSS is considered as these initiatives move forward. It was suggested that the involvement of medical officers of health as advocates for RRFSS would be beneficial as these discussions begin at the highest levels of provincial organizations.

The thinking has to go on in a wider than RRFSS context. So I think the big question isn’t should RRFSS do a provincial sample, I think the big question is what is the best way to coordinate surveillance in Ontario, to have a coordinated surveillance system.

-potential data user or surveillance expert

If I were trying to strategize about how to move forward, … RRFSS has to now act through the MOHs of the participating health units. It has to seek legitimacy and higher level support, in a cohesive fashion, … I think to move this forward, if they were seeking larger level partners, I think they’re going to have to recruit the people in the system who are used to dealing at that level.

-potential data user or surveillance expert

One of the over-arching recommendations of a recent report on taking action to prevent chronic disease was that Ontario needs a well-thought out, comprehensive, and coordinated surveillance system. It seems to me that RRFSS has to be considered in that, it has to be a partner in that.

-potential data user or surveillance expert

It is at this juncture that the previous challenges related to communication about the pilot may need to be addressed and resolved before meaningful steps forward can happen.

[There may be questions about] the extent to which the RRFSS team is perceived as being ready to collaborate on a wide front, and think about what’s best for everyone at the provincial level.

-potential data user or surveillance expert

RRFSS as it stands is less likely to be sustainable than a RRFSS that is able to adapt and see a potential new role, one wherein it collaborates, and communicates, and cooperates with other surveillance partners and users more effectively and fully.

-potential data user or surveillance expert
Perceived Opportunities, Challenges, and Next Steps

**RRFSS as a Tool for Evaluation and Accountability**

It was also suggested that the potential for RRFSS to be an evaluative tool should be further explored and marketed. When a health unit is emphasizing a particular initiative in a local area, RRFSS may have the potential to be used to track change in that area as compared to another region where that issue has not been the focus of particular health unit action. If the value of RRFSS from that point of view could be demonstrated, that would expand the potential applications of RRFSS, which might increase the marketability of RRFSS and of a provincial sample.

*One of the features that would be really cool in this, is for health units to come on board and say okay, we’re planning to do an evaluation, we’re planning to do an intervention. Let’s use RRFSS for the evaluation of the intervention, and choose my comparator health unit because they’re thinking of doing [the same thing]. So compare us now, compare us three months from now, and six months from now, and a year from now, because we need to know the answers ourselves, and also want to demonstrate leadership to the rest of the province. So that’s another example that I would say is a potential strategic use of RRFSS.*

-potential data user or surveillance expert

It was suggested by several interviewees that there might be potential for RRFSS with provincial estimates to be useful for intersections with provincial government-level purposes.

*The public health indicators, either as part of accountability agreements with health units, or as part of sentinel work. Having sentinel indicators can provide a snapshot with respect to what’s happening at the local level, vis-à-vis what’s happening province-wide. And the other intersect would be could be with respect to fruit and vegetable consumption being either an equity lens through some of these indicators, or using them as part of a picture with respect to equity.*

-potential data user or surveillance expert

Many interviewees also suggested that provincial estimates would be valuable as accountability agreement indicators in a performance management context. For this purpose, what is needed are local health unit estimates for all health units and indicators that reflect public health priorities. Provincial estimates would be valuable but are of secondary concern for local health unit accountability. A way to fund a system that included provincial estimates and local estimates for all health units would need to be found before the relevance of the pilot to accountability agreements would be seen.
Marketability of RRFSS

As a suggestion for next steps, several key informants identified the need to ‘sell’ or market RRFSS to potential partners, as shown in the following quotations.

*As part of the dissemination of the results of the pilot, to take it that step further: “This is what we did, and these are the opportunities”. Come up with a communication tool that … bridges what’s been done and the results of the pilot, and making those connections with things that are in the works right now. So use it as a communication tool about the pilot, but taking it that step further.*

- Potential data user or surveillance expert

*There should be development of an options paper or something, and that might be a way of exploring this future role of RRFSS. I think that the various options or models should have various price tags. This is about getting people in the room and saying oh, are we talking three million, or thirty million, or three billion. … Put a real question in there, put a demonstration question. And propose an actual demonstration question that is relevant to the Healthy Kids panel, or relevant to Smoke-Free Ontario. That makes it real. Come with something that’s workable and come up with something with enough narrative text behind it that somebody can pick up and stick into a business case on three days’ notice.*

- Potential data user or surveillance expert
Concluding Remarks

Ultimately, the majority of respondents and informants consider a provincial sample as important and support the idea of a provincial sample as part of RRFSS, although even without a provincial sample, there is value in the local data. As next steps are being contemplated, it seems important to recall that the primary purpose of RRFSS is to generate local estimates, and there is significant recognition among survey and interview participants of the success that RRFSS has had in doing just that. Several informants mentioned the importance of maintaining the local purpose of RRFSS, which entails a meaningful amount of local control over the content of the survey. Because RRFSS-participating health units are the primary audience for RRFSS-generated estimates, the needs of this primary audience must be front and centre in future decision-making.

With that audience in mind, what do participating health units want and need? Beyond having local estimates, as always, they would welcome provincial comparators, and they also need to ensure the ongoing sustainability of RRFSS. There is recognition that, in order to sustain RRFSS, and potentially to grow the system in valuable ways, more revenue will be needed. But it must be noted that health units, both participating and not, are also looking for cost reductions that would make RRFSS participation sustainable for them over the longer term. It is not known whether current RRFSS-participating health units would be able and willing to support additional cost for the additional benefit of a provincial comparator, although informants suggest that their tolerance for cost is already at or approaching the participation threshold. Thus, full exploration of other funding options is an important step to explore in considering the viability of a provincial sample while remaining true to the core purpose of RRFSS.

Key informants suggested that broader consultation with stakeholders and surveillance experts would be valuable before embarking on future provincial sample surveillance. This is not to say that there are strong reservations about what was done in the pilot, but there are many possibilities to consider and the expertise is available in Ontario to be able to consider all options and determine the best course of action for the future. The broader context of surveillance in Ontario, both currently and in future, should be brought to bear on decisions about future steps toward provincial surveillance.
Recommendations

1. Given that there is perceived value in a provincial sample, and given that the pilot has demonstrated the feasibility of collecting such a sample as part of RRFSS, and given that RRFSS provincial estimates provide the best comparator for RRFSS local data, the RRFSS partnership should more fully develop the options for funding a provincial sample as part of RRFSS, including the costs of analysis and administration.

Options for funding a provincial sample and the related analytic and administrative needs include:

   A. Increasing the cost of RRFSS to each participating HU to cover the additional costs of a provincial sample

Although this must be one option to prepare, some health unit informants have said that any cost increase could lead to them ceasing their participation in RRFSS. Were that to happen, it would be an outcome quite opposite to what is intended, so this course would need to be considered very carefully and with consultation.

   B. Seeking support from public health partners, whether for analytic support for the provincial sample, analytic support for RRFSS local, and/or or for RRFSS overall

An arrangement for partner support of RRFSS data analysis, whether provincial data, local data, or both, would require sharing of the data. Although there are existing data sharing agreements and a history of data sharing, a new process to facilitate this type of data sharing would need to be developed with the agreement of participating health units. Analytic support would add value to RRFSS and could potentially reduce resource commitments to analysis at the local level, which would be of benefit to participating health units.

Such a central analytics arrangement would also require alignment of priorities to ensure that health units continue to receive the local estimates they require for planning. The decisions about what is analyzed and within what timeframe would need to be made with the needs of participating health units in mind, as well as with the incorporation of the priorities of the partner agency.

Although financial support from partners for RRFSS overall would be desirable, and is supported by many key informants in this evaluation, it must be acknowledged that this approach has been pursued previously without bearing fruit, and there is no reason to think that the timing for a funded RRFSS is better now than it has been previously.

   C. Selling time on the provincial survey, with those funds used to cover some data collection costs but also to contribute to the maintenance of the RRFSS system
This option might occasionally yield some revenues, but there is no indication that this would provide a reliable, predictable, stable funding base to allow RRFSS to truly reduce costs to health units. The upfront commitment to establishing procedures for bringing on other partners would be considerable. It would be valuable, however, to engage in an evaluated pilot of this process to work out the details, reduce any unneeded barriers to partner involvement, and demonstrate the possibilities. An additional gain for participating health units might be that a provincial sample could be resourced this way if the ‘purchased’ questions were aligned with health unit interests, so that the data generated met the needs of health units as well as partners.

**D. Securing the participation of currently non-participating health units, who may be persuaded by the additional benefits associated with having a provincial comparator.**

Although all health units are undoubtedly aware of RRFSS, the time may be right to approach non-participating health units with a description of the benefits of RRFSS and the costs of participating, plus any other information that can be shared about the RRFSS partnership’s intentions vis-à-vis a provincial sample.

Combinations of the above funding strategies may also be viable.

2. **The RRFSS partnership should prepare a strategy and communication plan to link the potential provincial sample to other initiatives going on now or emerging in the province.**

These initiatives may include new or evolving surveillance approaches that may emerge in the province, such as surveillance related to the next steps in the recent CCO/PHO “Taking Action to Prevent Chronic Disease” report, overall agency strategies related to surveillance in the province, or links to strategies related to chronic disease that could benefit from surveillance information tailored to their specific needs, such as a provincial diabetes strategy, childhood obesity strategy, provincial public health report, etc.

3. **The RRFSS partnership should consider other sampling strategies, such as collecting data for the non-RRFSS-participating health unit areas to put together with existing data from participating health units, as a way of generating a provincial sample, with particular reference to the cost implications and utility of this approach versus the sampling approach used in the pilot.**

4. **RRFSS should continue to explore changes and improvements to its methodology. Any improvements would increase the value of RRFSS and thereby potentially contribute to its sustainability.**

Potential changes or improvement to the RRFSS methodology could include post-stratification weighting for RRFSS data, contacting survey participants on cell phone numbers, accessing populations under age 18, and mixed mode approaches including the incorporation of online surveys.
References


