

Public Health Data and Information Management Capacity Survey Tool

**June 2007
Revised October 2008**



Authors

Susan Snelling (Project Lead)
Public Health Research, Education & Development (PHRED) Program
Sudbury & District Health Unit

Darshaka Malaviarachchi
Public Health Research, Education & Development (PHRED) Program
Sudbury & District Health Unit

Angela Bennett
Public Health Research, Education & Development (PHRED) Program
Sudbury & District Health Unit

Acknowledgements

There are many people who made important contributions to this project. We especially thank those who contributed as key informants to the development of the tool and those respondents who participated in the pilot of the Survey Tool and User's Guide. We would also like to acknowledge Vicky Schwarz who formatted the Survey Tool and User's Guide, and Isabelle Michel who reviewed the documents.

Contact for More Information

Susan Snelling, Manager, Research & Evaluation
Public Health Research, Education & Development (PHRED) Program
Sudbury & District Health Unit
1300 Paris Street
Sudbury ON P3E 3A3
Tel: (705) 522-9200, ext. 353
Email: snellings@sdhu.com

This document is available online at www.phred-redsp.on.ca.

© Ontario Public Health Research, Education & Development (PHRED) Program, 2007, 2008.

Public Health Data and Information Management Capacity Survey Tool

Data management is the process of understanding the data needs of an organization and making the data available to support the operations of the organization (Thuraisingham, B., ed. (1998). *Data Management Handbook*). Data and information management is a vital component of performance management and professional practice in public health.

The Ontario Public Health Standards (OPHS) (2008), and particularly the Foundational Standard, require an evidence-informed approach that will involve effectively managing data and information. This self-administered tool is designed to help local public health units assess data and information management processes and capacities within the health unit. The results of the survey are intended to be useful to local health units in assessing their current practices and identifying areas for potential improvement.

The questions in this tool are written to apply to a wide range of public health settings. Therefore, you will have to apply each question to your specific organization and program area. The terms ‘Board of Health’ and ‘health unit’ are used in this tool to refer to public health units and departments. Comments sections are provided if you need to provide additional context for your answers.

Instructions for Completing the Tool

The survey is not designed to be completed by any specific person or by any specific position. The composition and individual circumstances of each health unit will determine the best people to complete the survey.

Because the survey covers the whole organization, it is suggested that staff from various departments be involved in completing the survey. In order to maximize learning from the completion of the assessment, health units have found it helpful to have a group of staff from various programs and positions (management, front line, IT staff, research staff, etc.) meet to discuss and complete the survey together. However, this may not be feasible in all cases, so we suggest that you develop the most appropriate method to complete the survey for your Board of Health.

In pilot testing, respondents found that the time required to complete the tool for a particular program is approximately 20 minutes. If completed as part of a group process, the amount of discussion and the size of the group will affect the time required.

All of the questions have a ‘don’t know’ response. The questions address issues that may not often be considered; therefore, it is reasonable that for some of the questions the best answer is ‘don’t know’.

This tool is comprised of three sections. Part A includes a number of questions to assess your organization’s current data and information management capacity. Some questions are organized by the program standards in the Ontario Public Health Standards and include administration data (HR and financial) as a ‘program’; some questions consider the Board of Health as a whole. Part B is about planning for improvement to address data and information management needs. Part C helps pull together the previous two sections as you set priorities.

The User’s Guide is a resource to help complete the survey. It provides additional resources, definitions of terms and concepts as well as additional questions you may want to consider when completing the survey. It may be helpful to begin by reviewing the User’s Guide to orient you to the survey tool.

Throughout the survey you will see ^. This symbol indicates that there is additional information related to the question contained in the User's Guide. When the symbol is present, it is suggested that you refer to the guide to increase your understanding of the question and to ensure you are considering all aspects related to the specific question.

PART A: Assessing Current Data and Information Management Capacity

The questions in this section of the survey cover several aspects of current capacity in data and information management: the processes used to manage data and information; how information and data are used, and by whom; and the human resources involved in supporting data and information management.

1. Data and Information Processes[^]

In assessing the processes used to manage data and turn that data into information through analysis and reporting, consider how routine and standardized the processes are at your health unit. Please complete the following table for each program area by choosing the most appropriate response and entering the corresponding points value from the list below.

Response Options	Response Explanations	Points
No activity	We do not perform this activity	1
No routine processes	We perform this activity but in an ad hoc/as needed manner	2
Initial stages	We are starting to develop standardized/routine processes	3
Basic processes in place	Routine processes are in place but not standardized	4
Processes are routine and practiced by all	The Board of Health has standard processes that are followed across the organization (may be outlined in policies and procedures)	5
Don't know		0

Program Area	Data Access & Collection	Data Entry	Data Validation	Data Storage & Security	Data Extraction, Analysis & Interpretation	Data Reporting & Dissemination
Chronic Disease Prevention						
Prevention of Injury & Substance Misuse						
Reproductive Health						
Child Health						
Infectious Diseases Prevention & Control						
Rabies Prevention & Control						

Program Area	Data Access & Collection	Data Entry	Data Validation	Data Storage & Security	Data Extraction, Analysis & Interpretation	Data Reporting & Dissemination
Sexual Health, Sexually Transmitted Infections, & Blood-borne Infections						
TB Prevention & Control						
Vaccine Preventable Diseases						
Food Safety						
Safe Water						
Health Hazard Prevention & Management						
Public Health Emergency Preparedness						
Administration (HR and Financial)						

Scoring: No activity=1; No routine processes=2; Initial stages=3; Basic processes in place=4; Processes are routine and practiced by all=5; Don't know=0

Please provide any additional comments about your Board of Health's data and information processes.

2. From Data and Information to Knowledge: Data Usage and Application^

Acquiring good quality **data** and turning it into **information** through analysis and reporting is only one component of data and information management. Program **knowledge involves the use and application of the information to assist with program management and decision-making.**

Knowledge is generated by many different people at many different points in a program. For example, data and information about a program come from intake workers who receive requests, staff who respond to requests, managers who oversee the program, and research staff who evaluate the program. The data and information about a program can be used in a variety of contexts and by a variety of individuals. Please complete the table below to indicate how **consistently data, information and knowledge are used** in each of the program areas, by choosing the most appropriate response and entering the corresponding points value from the list below.

Response Options	Points
Not at all	1
Occasionally	2
Often	3
Always	4
Don't know	0

Program Area	Communication about data quality occurs among staff involved in all stages of the data cycle, from collection to use	Data are used to understand programs	Surveillance data are used in program planning	Program evaluation data are used in program planning	Data are used to support decision-making	Data needs are identified to guide future data collection processes
Chronic Disease Prevention						
Prevention of Injury & Substance Misuse						
Reproductive Health						
Child Health						
Infectious Diseases Prevention & Control						

Program Area	Communication about data quality occurs among staff involved in all stages of the data cycle, from collection to use	Data are used to understand programs	Surveillance data are used in program planning	Program evaluation data are used in program planning	Data are used to support decision-making	Data needs are identified to guide future data collection processes
Rabies Prevention & Control						
Sexual Health, Sexually Transmitted Infections, & Blood-borne Infections						
TB Prevention & Control						
Vaccine Preventable Diseases						
Food Safety						
Safe Water						
Health Hazard Prevention & Management						
Public Health Emergency Preparedness						
Administration (HR and Financial)			N/A	N/A		

Scoring: Not at all=1; Occasionally=2; Often=3; Always=4; Don't know=0

Please provide any additional comments about your Board of Health's data usage and application.

3. Human Resource Capacity^

As described in the OPHS (2008), “capacity includes many areas: organizational structures and processes; workforce planning, development, and maintenance; information and knowledge systems; and financial resources” (p. 13). One of the factors that influences an organization’s ability to manage data and information efficiently is **access to and appropriate workforce planning or use of human resource capacity**. To what extent does the Board of Health have, or have access to, human resource capacity with respect to the functions in the table below? Please complete the table by choosing the most appropriate response and entering the corresponding points value from the list below.

Response Options	Points
None or limited capacity	1
Some capacity	2
Moderate capacity	3
Extensive capacity	4
Don't know	0

Human Resource Capacity	Points Value
Skills and knowledge of data access and collection	
Skills and knowledge of data entry	
Skills and knowledge of data validation	
Skills and knowledge of data storage and security	
Skills and knowledge of data extraction, analysis, and interpretation	
Skills and knowledge of data reporting and dissemination	
Skills and knowledge to use data to understand programs	
Skills and knowledge to use surveillance data in program planning	
Skills and knowledge to use program evaluation data in program planning	
Skills and knowledge to use data to support decision-making	
Skills and knowledge to identify data needs including priority populations	
Skills and knowledge to develop databases for program-specific needs	
Leadership on data and information management	
Leadership on a quality assurance process	
Advice/consultation from a designated privacy officer	

Please provide any additional comments about your Board of Health’s human resource capacity related to data and information management.

4. Information Technology^

Which of the following aspects of information technology (IT) influence the extent to which data and information management can be efficiently managed within your organization? (check all that apply)

- Software limitations
- Limited access to hardware, such as computers
- Inability to modify software to meet health unit specific needs
- Limited financial resources devoted to information technology
- Limited physical space for data storage
- Limited electronic space for data storage
- Lack of dedicated staff time devoted to IT
- Lack of organizational policies and procedures related to IT
- Lack of guidelines for data storage and security
- Limited collaborations with other health units related to IT
- Limited collaboration with Ministry related to IT
- Lack of access to IT support staff
- Lack of training for IT staff on health unit applications
- Lack of staff training on IT
- Don't know

Other:

Please provide any additional comments about the influence of information technology on your Board of Health's management of data and information.

5. Satisfaction

Considering all of your program’s data and information management activities and needs (current and anticipated), how satisfied are you that the following aspects **meet your organization’s needs**? Please complete the following table by choosing the most appropriate response and entering the corresponding points value from the list below.

Response Options	Response Explanations	Points
Unsatisfied	Does not meet organization’s needs	1
Somewhat satisfied	Somewhat meets organization’s needs	2
Satisfied	Meets organization’s needs	3
Don’t know		0

Program Area	Accuracy of data	Relevance of data	Necessary data and information management <i>policies</i> are in place	Amount of time and resources allocated to data quality	Amount of time and resources allocated to using <i>data, information</i> and <i>knowledge</i>
Chronic Disease Prevention					
Prevention of Injury & Substance Misuse					
Reproductive Health					
Child Health					
Infectious Diseases Prevention & Control					
Rabies Prevention & Control					
Sexual Health, Sexually Transmitted Infections, & Blood-borne Infections					
TB Prevention & Control					
Vaccine Preventable Diseases					
Food Safety					

Program Area	Accuracy of data	Relevance of data	Necessary data and information management <i>policies</i> are in place	Amount of time and resources allocated to data quality	Amount of time and resources allocated to using <i>data, information</i> and <i>knowledge</i>
Safe Water					
Health Hazard Prevention & Management					
Public Health Emergency Preparedness					
Administration (HR and Financial)					

Scoring: Unsatisfied=1; Somewhat satisfied=2; Satisfied=3; Don't know=0

Please provide any additional comments about your organizational needs with respect to managing data and information.

PART B: Planning for Improvement

Training, supports and enhancements are key features of any plan to improve data and information management processes. The questions below ask you to indicate what training and supports would be most beneficial in moving forward in data and information management. This information may help you to narrow a search to those training and support topics that will be most useful.

6. On what topics would your Board of Health benefit from education, development and training to assist in improving your data and information management processes? (select as many as apply)

- Activity tracking
- Output monitoring
- Outcome measurement
- Data entry
- Data analysis and interpretation
- Using data in decision making and performance management
- Developing policies to govern practice of data and information management
- Leadership in data management
- Continuous quality improvement
- Secure management and storage of data
- Training for IT staff on health unit applications
- Don't know

Other:

7. Other than training, which has been covered above, what are the most important supports and enhancements needed to make you feel more confident about your health unit's ability to effectively manage data and information? (select as many as apply)

- Developing new roles and responsibilities for current staff
- Enhanced research staffing
- Supports on managing change
- More collaboration between health units to share approaches and tools
- Access to additional databases
- Definitions of terms
- Standardized data quality process
- Audit process for data quality
- Data support or help desk
- Don't know

Other:

Please provide any additional comments about your Board of Health's needs and plans for improvements to your data and information management capacity.

Part C: Identifying Priority Areas

This section of the tool will help identify priority areas and bring the previous two sections together. This is an opportunity to reflect on your answers and what you have learned in the process of completing the tool.

For each of the sections below, identify your three priority areas. Priority areas are those components of data and information management that, if addressed, would provide the greatest impact, or they are those areas that are of particular concern. One way to identify priority areas is to consult the total scores for each section. The total scores appear in the table within each section below and are calculated from your rating within the tool. The areas with the lowest score might represent priority areas for your organization, but please use your best judgement as to what constitutes a priority for your Board of Health. Also, remember there are no right or wrong answers.

Data and Information Processes (from Question 1)

	Data Access & Collection	Data Entry	Data Validation	Data Storage & Security	Data Extraction, Analysis & Interpretation	Data Reporting & Dissemination
Total Scores						

- 1 _____
- 2 _____
- 3 _____

From Data and Information to Knowledge: Data Usage and Application (from Question 2)

	Communication about data quality occurs among staff involved in all stages of the data cycle, from collection to use	Data are used to understand programs	Surveillance data are used in program planning	Program evaluation data are used in program planning	Data are used to support decision-making	Data needs are identified to guide future data collection process
Total Scores						

1 _____

2 _____

3 _____

Human Resource Capacity (from Question 3)

Skills and knowledge of data access and collection	
Skills and knowledge of data entry	
Skills and knowledge of data validation	
Skills and knowledge of data storage and security	
Skills and knowledge of data extraction, analysis and interpretation	
Skills and knowledge of data reporting and dissemination	
Skills and knowledge to use data to understand programs	
Skills and knowledge to use surveillance data in program planning	
Skills and knowledge to use program evaluation data in program planning	
Skills and knowledge to use data to support decision-making	
Skills and knowledge to identify data needs including priority populations	
Skills and knowledge to develop databases for program-specific needs	
Leadership on data and information management	
Leadership on a quality assurance process	
Advice/consultation from a designated privacy officer	

1 _____

2 _____

3 _____

Information Technology (from Question 4)

From the list of items that were identified as limitations in question 4, please list the three items that, if addressed, would provide the greatest benefit to the Board of Health's capacity to manage data and information.

- Software limitations
- Limited access to hardware, such as computers
- Inability to modify software to meet health unit specific needs
- Limited financial resources devoted to information technology
- Limited physical space for data storage
- Limited electronic space for data storage
- Lack of dedicated staff time devoted to IT
- Lack of organizational policies and procedures related to IT
- Lack of guidelines for data storage and security
- Limited collaborations with other health units related to IT
- Limited collaboration with Ministry related to IT
- Lack of access to IT support staff
- Lack of training for IT staff on health unit applications
- Lack of staff training on IT
- Don't know

Other:

1 _____

2 _____

3 _____

Satisfaction (from Question 5)

Please identify your three priority areas from question 5.

	Accuracy of data	Relevance of data	Necessary data and information management <i>policies</i> are in place	Amount of time and resources allocated to data quality	Amount of time and resources allocated to using <i>data, information and knowledge</i>
Total Scores					

1 _____

2 _____

3 _____

After you have identified priorities for the first five questions, please take a moment to reflect on your responses thus far. What have been your key learnings? What areas would you like to learn more about? Within your organization (or program area) who is responsible for each of these areas?

Planning for Improvements: Training (from Question 6)

Of the items you checked in question 6, please pick the top three priorities for your health unit. What are the three priority topics on which your Board of Health would benefit from education, development and training to assist in improving your data and information management processes?

- Activity tracking
- Output monitoring
- Outcome measurement
- Data entry
- Data analysis and interpretation
- Using data in decision making and performance management
- Developing policies to govern practice of data and information management
- Leadership in data management
- Continuous quality improvement
- Secure management and storage of data
- Training for IT staff on health unit applications
- Don't know

Other:

1 _____

2 _____

3 _____

Planning for Improvements: Supports and Enhancements (from Question 7)

Of the items you checked in question 7, please pick the top three priorities for your health unit. What are the three most important supports and enhancements needed to make you feel more confident about your health unit's ability to effectively manage data?

- Developing new roles and responsibilities for current staff
- Enhanced research staffing
- Supports on managing change
- More collaboration between health units to share approaches and tools
- Access to additional databases
- Definitions of terms
- Standardized data quality process
- Audit process for data quality
- Data support or help desk
- Don't know

Other:

1 _____

2 _____

3 _____

After you have identified your Planning for Improvements priorities, please take a moment to reflect on your responses. What have been your key learnings? What areas would you like to learn more about? What skills would need to be built in order to improve in the areas you have identified? Within your organization (or program area) who is responsible for each of these areas?

Please see [page 6](#) in the User's Guide for some suggested approaches to making use of your results.