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PUBLIC HEALTH BRANCH BALANCED SCORECARD 2009

The Community and Health Services Committee recommends:

- 1. Receipt of the presentation by Shelley Stalker, Manager, Epidemiology and Research, Public Health, and Nadine d'Entremont, CQI Policy Planning Coordinator, Public Health; and**
- 2. Adoption of the recommendation contained in the following report dated December 17, 2010, from the Commissioner of Community and Health Services.**

1. RECOMMENDATION

It is recommended that:

1. The Regional Clerk circulate the *Balanced Scorecard for York Region Public Health 2009 (Council Attachment 1)* to the Chief Public Health Officer for Canada, the Public Health Agency of Canada, the Chief Medical Officer of Health of Ontario, the Provincial Minister of Health and Long-Term Care, the Association of Municipalities of Ontario, the Ontario Agency for Health Protection and Promotion, the Association of Local Public Health Agencies, the Central Local Health Integration Network, boards of health in Ontario, and local municipalities for their information.

2. PURPOSE

This report is prepared for Regional Council in order for it to carry out its legislative duties and responsibilities as the Board of Health under the *Health Protection and Promotion Act*. It highlights key findings of the *Balanced Scorecard for York Region Public Health 2009* and outlines changes made to the balanced scorecard since the initial Public Health Branch balanced scorecard was developed in 2007.

3. BACKGROUND

The balanced scorecard framework enables measurement of various aspects of organizational performance

The balanced scorecard is a measurement and reporting tool made up of a set of measures, grouped into four quadrants, that captures multidimensional aspects of an organization's performance. It was originally developed for the private sector as a means of balancing financial performance measures with information on internal processes, customer satisfaction, and employee learning and growth, and has since been adapted across a variety of disciplines and organizations.

The public health balanced scorecard supplements traditional health status indicators with measures on process and resources

In the field of public health, the balanced scorecard framework enables health units to give context to population health indicators, which customarily form the basis for public health status reports. Ontario health units that have used a version of the balanced scorecard for performance measurement include Simcoe-Muskoka, Brant County, North Bay-Parry Sound, Huron County and Peel Region.

In 2004, the Institute for Clinical Evaluative Sciences proposed a balanced scorecard framework for public health based on the four quadrants of Health Determinants and Status, Resources and Services, Community Engagement, and Integration and Responsiveness.

Health Determinants and Status

The Health Determinants and Status quadrant provides a general overview of the health of a population. It contains measures of the social determinants of health as well as traditional public health status indicators such as rates of disease mortality and measures of health behaviours.

Health Determinants and Status indicators can be used to assess the relative need for public health services. In isolation, however, health status measures do not adequately indicate public health performance since health outcomes are influenced by multiple factors, many of which, such as poverty, literacy levels and employment rates, lie beyond the direct programmatic responsibility of local public health units.

Resources and Services

The Resources and Services quadrant measures the resources used by public health, such as financial and human resources, and the services delivered to target populations.

Community Engagement

The Community Engagement quadrant emphasizes public health accountability to the population it serves. It assesses community and client awareness and preferences, as well

as the mechanisms used to ensure community input into program planning and service delivery.

Integration and Responsiveness

The Integration and Responsiveness quadrant relates to the structural capacity of public health to work with other healthcare sectors and community agencies to plan and deliver programs as well as its capacity to continually transform services in response to evolving needs, issues and evidence.

The *Balanced Scorecard for York Region Public Health 2007* provided a baseline look at key public health activities

In 2007, York Region became an early adopter of the balanced scorecard for public health performance measurement, and developed its first scorecard based on the Institute for Clinical Evaluative Sciences framework. Regional Council received the *Balanced Scorecard for York Region Public Health 2007* in June 2008 through the adoption of Clause No. 2 of Report No. 5 of the Health and Emergency Medical Services Committee.

Both internal and external stakeholders were involved in a participatory process to select and collect key performance indicators for the 2007 balanced scorecard. Since it was the Public Health Branch's first attempt at developing performance measures using the balanced scorecard framework, the 2007 report provided a baseline snapshot of key public health programs and services.

The balanced scorecard is part of an ongoing performance monitoring, reporting and quality improvement system to inform program delivery

Measures reported in the 2007 scorecard informed decisions about program delivery. This was especially true when several measures from different quadrants could be linked to provide a picture of performance. For example, indicators relating to low levels of inclusivity, community engagement in program planning and reach prompted the Child and Family Division to conduct a needs assessment and redesign the prenatal and parenting program to include:

- An updated curriculum to reflect behaviour change and needs of clients.
- Provision of prenatal classes in Mandarin.
- Doubling of the number of Cantonese/Mandarin parenting sessions from 51 in 2007 to 102 in 2008.
- Delivery of parenting information during one-time topic specific workshops in addition to series-based programs.
- Provision of more drop-in sessions that do not require pre-registration.
- An increase in the number of "father-involved" sessions in the post partum mood disorder education and support group.

Changes to prenatal and parenting education programming are reflected in data presented in the 2009 balanced scorecard. Continuous monitoring of indicators will help ascertain the impact of the changes.

As another example, the 2007 scorecard showed a higher rate of enteric illnesses in York Region than the provincial average (91.1/100,000 vs. 79.5/100,000). Further analysis of data indicated that many cases were sporadic, suggesting a home-based exposure. Therefore, to further enhance food safety in the community, the Health Protection Division implemented a Food Safety in the Home communication strategy. Between November and December 2008, four hundred telephone surveys were conducted to assess household food safety trends. The results were used to develop a new health promotion campaign directed at domestic food handlers and to tailor current food safety campaigns to meet the needs of residents. This initiative is featured as a community engagement case study in the 2009 balanced scorecard.

Response to H1N1 delayed production of a 2008 balanced scorecard

The Public Health Branch response to pandemic H1N1 influenza in 2009 resulted in a delay in the production of a 2008 balanced scorecard. One advantage of this delay was that 2009 data were able to be incorporated, allowing for further analysis of trends

4. ANALYSIS AND OPTIONS

The Balanced Scorecard for York Region Public Health 2009 incorporates new indicators, further contextual information and case studies

The 2009 public health balanced scorecard reapplies the balanced scorecard framework to performance measurement at the local health unit level. This time the scorecard is less comprehensive. The emphasis is on reporting levels of need, reach, service delivery and effectiveness for key indicator activities. Several factors influenced the new format and content of the 2009 balanced scorecard:

- Process and outcome evaluations of the 2007 balanced scorecard resulted in suggestions relating to indicator selection and data interpretation.
- The Initial Report on Public Health, released in August 2009 as the first step towards a provincial public health performance management framework, provided data from other Ontario public health units which can be used as comparison.
- New guidelines for indicator selection created with input from epidemiologists and program delivery staff ensured more robust and valid data.

The scorecard does not encompass all the activities of the health unit, but provides a window on select activities as measures of performance and continuous quality improvements. Consequently indicator development and collection was restricted to three or four key activities per each of the four divisions within the Public Health Branch:

- Infectious Diseases Control
- Child and Family Health
- Health Protection
- Healthy Lifestyles

Explanatory text provides context for the key indicator activities. When indicators replicate those of the Initial Report on Public Health, a comparison with peer health units is presented. Financial measures, which apply across the Public Health Branch, are presented in a separate section.

In the Community Engagement and Integration and Responsiveness quadrants, feasible, relevant quantitative measures were not readily available. Instead, case studies provide examples of how the Public Health Branch assesses community awareness and preferences, works in partnership with other agencies and sectors, and anticipates and responds to emerging issues and evidence.

Analysis of trends identifies successes, service pressures, and areas for quality improvement

Observable trends over the period 2007-2009 are highlighted below each of the balanced scorecard's key activity tables. Some of these trends demonstrate performance improvement, while others point to pressures on service delivery. In some cases, analysis of trends has informed quality improvement initiatives.

Measures of success

Improved performance in several program areas is illustrated in Table 1.

Table 1
Positive trends identified in the 2009 balanced scorecard

Indicator	2007	2009
Proportion of eligible students who received human papillomavirus (HPV) immunization (at least one dose)*	2007/08 school year: 53.4%	2009/10 school year: 69.5%
Proportion of York Region families serviced by the Healthy Babies, Healthy Children program that were screened and assessed using a Larson prenatal screen, brief assessment, or in-depth assessment**	63%	71%

Percentage of tobacco vendor inspections resulting in Smoke-Free Ontario Act charges***	12%	3.7%
Proportion of elementary schools participating in the York Region Healthy Schools Program****	2006/07 school year: 30.6%	2008/09 school year: 40.5%

* Balanced Scorecard Community Engagement case study 1

** Balanced Scorecard key activity table 8

*** Balanced Scorecard key activity table 15

**** Balanced Scorecard key activity table 17

Pressures on service delivery

- The experience of H1N1 demonstrates the pressure that responding to an emerging infectious disease or other public health emergency places on day-to-day service delivery.
- The number of confirmed reportable disease cases increased by 25% in 2009, increasing the case load of staff substantially. (Key activity table 4)
- The number of children eligible for dental screening increased significantly from 171,535 in 2008 to 230,957 in 2009 due to an expansion of the Children In Need of Treatment program to include youth up until their 18th birthday. This contributed to a drop in the proportion of children screened, from 41% in 2007 to 22% in 2009. (Key activity table 10)
- The number of personal services settings operating and requiring inspections increased by 16% between 2007 and 2008. (Key activity table 13)
- The number of schools providing breakfast and/or snack programs through Food for Learning grew from 21.8% in the 2006/07 school year to 34.7% in the 2008/09 school year as a result of expanded provincial investment in student nutrition programs as well as growing public interest in student nutrition. (Key activity table 19)

Quality improvement initiatives

- The length of outbreak duration in York Region institutions has prompted the Public Health Branch to increase efforts to educate facility staff about outbreak management practices, and to monitor disease transmission patterns more closely. (Key activity table 5)
- Average attendance at one-time or drop-in sessions has increased from 9 to 11 since prenatal and parenting education sessions were redesigned in light of needs assessment results indicating client preference for drop-in sessions instead of sessions requiring pre-registration. (Key activity table 11)

- Provincial introduction of a new risk classification tool for food premises resulted in a reclassification of some high risk premises to lower risk, contributing to a significant decrease in the number of required inspections between 2007 and 2009. This permitted a reallocation of staff resources to address emerging issues such as the need to inspect a growing number of personal services settings. (Key activity tables 12 and 13)
- The consistently low percentage of parents reached directly through the Injury Prevention program has prompted a program review to include more population health promotion strategies rather than direct client service. (Key activity table 20)

Financial performance

- The Ministry-approved Public Health budget increased by 4.1% between 2007 and 2008 and by 7.4% between 2008 and 2009. (Key activity tables 21 and 22)
- Like many of its peer health units, the York Region Public Health Branch underspent its approved budget in 2007. (Key activity table 23) This trend continued in 2008 and 2009.
- Total gross regional H1N1 response expenditures in 2009 were \$5.9 million. Except for an additional \$1.3 million of special funding contributed by the province, York Region was able to absorb these costs within its approved cost-shared 2009 budget, through in-year under expenditures that had developed out of a number of circumstances, including delays in hiring and the re-direction of \$2.3 million of regular services to H1N1 response activities.
- Although most health units experienced an increase in the gross cost per capita for public health between 2004 and 2008, York Region plateaued, likely a result of population growth. (Figure 8).

Next steps will include evaluation and further alignment with provincial framework

The Public Health Branch will continue to measure and analyze trends to inform decision making and improve performance. The 2009 balanced scorecard will be evaluated, and indicators will be refined as necessary for the next scorecard, targeted for production in 2012. The Branch will strive to align its performance measures with provincially-developed measures as they become available and as the provincial public health performance management framework expands in scope and content.

5. FINANCIAL IMPLICATIONS

Costs associated with the development and production of the balanced scorecard for the York Region Public Health Branch were accommodated within the existing Public Health budget.

6. LOCAL MUNICIPAL IMPACT

By describing and measuring select key activities delivered by public health, the 2009 balanced scorecard provides a basis for decision-making to improve service delivery or resource allocation to better meet the public health interests of York Region residents.

7. CONCLUSION

The *Balanced Scorecard for York Region Public Health 2009*, which builds on the 2007 balanced scorecard's baseline look at local public health programs and services, provides an overview of the reach, efficiency and effectiveness of selected key public health activities in 2007, 2008 and 2009. Analysis of trends identifies successes, points of pressure on service delivery and areas requiring review and realignment.

The Public Health Branch will continue to refine its performance measurement and improvement processes and align with provincial accountability initiatives. This will guide the development of the next balanced scorecard in 2012 and will help improve service delivery to the residents of York Region.

For more information on this report, please contact Dr. Karim Kurji, Medical Officer of Health at Ext. 4012.

The Senior Management Group has reviewed this report.

(Council Attachment 1 referred to in this clause was included in the agenda for the January 19, 2011 meeting.)



Public Health Branch Balanced Scorecard 2009

Presentation to
Community and Health Services Committee

Shelley Stalker
Nadine d'Entremont
January 19, 2011

The balanced scorecard provides an overview of performance

- ❑ Originally a business tool
- ❑ Adapted across public and private sectors
- ❑ Balances financial with non-financial indicators
- ❑ Has multiple uses



The balanced scorecard categorizes measures into four quadrants

Public Health Balanced Scorecard



Institute for Clinical Evaluative Sciences, 2004

York Region was an early adopter of the public health balanced scorecard

- ❑ 2007 balanced scorecard provided a baseline
- ❑ Measures reported in 2007 informed program decisions:
 - Prenatal and parenting education
 - Food Safety at Home Strategy
 - Food for Learning program

2009 scorecard introduces new indicators and case studies

- ❑ Organized by four divisions of Public Health Branch
- ❑ Fifteen key activity tables
- ❑ Case studies describe Community Engagement and Integration & Responsiveness quadrants
- ❑ Financial measures presented in separate section

Key Activity: Providing school-based immunization clinics

INDICATOR TYPE	DESCRIPTION	2007	2008	2009
Level of Need/Demand	Number of students eligible to receive voluntary immunizations	17,544	19,448	19,142
Reach	Proportion of eligible students who received a voluntary immunization:			
	Hepatitis B vaccine	97.2%	87.0%	88.2%
	Meningococcal C vaccine	53.1%	56.2%	62.1%
	HPV vaccine	n/a	53.4%	59.8%
Level of Service	Number of immunizations per allocated staff	11,180	11,341	11,763
Effectiveness	Proportion of students with complete immunization series	69.0%	67.0%	70.2%
Health Status	Hepatitis B incidence rate	46.8 per 100,000	38.6 per 100,000	35.7 per 100,000
	Meningococcal disease incidence rate	0.7 per 100,000	0.1 per 100,000	0.3 per 100,000



Key Activity: Screening & assessment for Healthy Babies, Healthy Children

INDICATOR TYPE	DESCRIPTION	2007	2008	2009
Level of Need/Demand	Total number of families serviced by Healthy Babies, Healthy Children	9,956	9,884	9,764
Reach	Proportion of families serviced by the program that were screened and assessed using a Larson prenatal screen, brief assessment, or in-depth assessment	63%	69%	71%
Level of Service	Total number of screening and assessments completed per full time equivalent	289	312	309
Effectiveness	Proportion of families serviced by Healthy Babies, Healthy Children that received in-depth assessment	4%	4%	3%
	Proportion of pregnant women screened using a Larson per year	4%	6%	14%
Health Status	Low birth weight (500-2,499 grams) rate for singleton hospital births	YR: 42.2 per 1,000	YR: 47.5 per 1,000	YR: 47.8 per 1,000
		ON: 47.9 per 1,000	ON: 47.9 per 1,000	ON: 47.9 per 1,000



Community and Health Services Committee
January 19, 2011

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Key Activity: Inspecting personal services settings

INDICATOR TYPE	DESCRIPTION	2007	2008	2009
Level of Need/Demand	Total no. of inspections required			
	High risk	247	228	232
	Low risk	2254	2685	2669
	Total	2501	2913	2901
Reach	Proportion of required inspections conducted:			
	High risk	82%	78%	99.2%
	Low risk	72%	65%	67.1%
Level of Service	No. of inspections and re-inspections conducted per allocated staff	628	648	509
Effectiveness	Proportion of inspections that require a re-inspection	4.3%	2.7%	2.4%
Health Status	Blood-borne infections incidence rate (Age standardized)	72.3 per 100,000	64.5 per 100,000	57 per 100,000



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Case Study: Tobacco management policy at Southlake Regional Health Centre

- ❑ In response to interest from hospital community, Public Health engaged Southlake staff
- ❑ Public Health clinical nurse specialist worked with hospital staff to develop a comprehensive tobacco management policy
- ❑ Smoke-free grounds policy implemented

York Region Public Health process and indicators inform other initiatives

- ❑ Provincial performance management working group
- ❑ Performance measurement initiatives in other health units:
 - ❑ Peel
 - ❑ Ottawa
 - ❑ Simcoe Muskoka
 - ❑ Regina

Next steps

- ❑ 2009 balanced scorecard will be evaluated
- ❑ Next scorecard targeted for production in 2012
- ❑ Performance measures to be aligned with provincial measures as they become available

B A L A N C E D



DRAFT



Prepared by the Public Health Branch
Community and Health Services Department
The Regional Municipality of York

BALANCED

Health
Determinants
and Status

Resources
and
Services

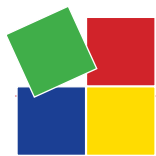
Community
Engagement

Integration
and
Responsiveness

2009

SCORECARD

Prepared by the Public Health Branch
Community and Health Services Department
The Regional Municipality of York



ACKNOWLEDGEMENTS

The *Balanced Scorecard for York Region Public Health 2009* was prepared under the guidance of the Office of the Commissioner of Community and Health Services and the Office of the Medical Officer of Health. The project was managed by the Associate Medical Officer of Health.

This balanced scorecard reflects the activities and performance of the Public Health Branch of the York Region Community and Health Services Department. It was developed and written by staff of the Epidemiology and Research Team and the Office of the Medical Officer of Health, with contributions from the Infectious Diseases Control, Child and Family Health, Health Protection, and Healthy Lifestyles Divisions. Members of the Public Health Branch's Indicator Review Working Group coordinated submissions from each Public Health Branch division. Staff from the Business Operations and Quality Assurance Branch also contributed to the report, and staff within the Strategic Service Integration and Policy Branch provided editorial and graphic support.

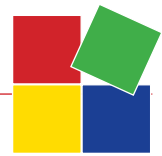
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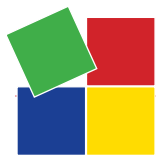
If you would like more information about this document, contact the Medical Officer of Health at the address above.

October 2010

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EXECUTIVE SUMMARY

York Region Public Health's *Balanced Scorecard for York Region Public Health 2009* applies the balanced scorecard framework to performance measurement at the local health unit level. It builds on the *Balanced Scorecard for York Region Public Health 2007*'s baseline look at local public health programs and services, and provides an overview of the reach, efficiency and effectiveness of certain key activities conducted by the Public Health Branch in 2007, 2008 and 2009. The scorecard does not encompass or report on all the activities of the health unit, but provides details on a select few activities as measures of performance and continuous quality improvements. Consequently, for the purpose of the scorecard each of the four divisions within the Public Health Branch was asked to restrict indicator development and collection to three or four key activities per division.

The balanced scorecard is a performance reporting tool made up of a set of measures, grouped into four quadrants, that gives an overarching, multidimensional view of an organization.

This 2009 report, like its predecessor, is based on the public health balanced scorecard framework proposed by the Institute for Clinical Evaluative Sciences (ICES) in 2004:

The Health Determinants and Status quadrant contains measures of the social determinants of health and traditional public health status indicators, such as rates of disease morbidity and mortality and measures of health behaviours and beliefs.

The Resources and Services quadrant measures the resources used by public health, such as financial and human resources, and the services delivered to target populations.

The Community Engagement quadrant assesses community and client awareness and preferences and the mechanisms used to ensure community input into program planning and service delivery.

The Integration and Responsiveness quadrant relates to the structural capacity of public health to work with other healthcare sectors and community agencies to deliver programs and its capacity to continually transform services in response to evolving needs, issues and evidence.

Changes to the format and content of the 2009 balanced scorecard were influenced by the results of a process and outcome evaluation of the 2007 scorecard conducted with Public Health Branch staff and by the provincial Initial Report on Public Health, which compared measures of health status and service delivery among peer health units. *A Balanced Scorecard for York Region Public Health 2009* presents indicators of performance based on revised criteria to improve their validity and reliability. Five types of indicators measure level of need, extent of reach, level of service delivery, level of effectiveness and trends in health status. Wherever available the scorecard provides indicators for the three years 2007-2009 and offers interpretation of key trends. In addition, brief case studies are provided for activities better described by text than quantitative measures. Where possible, the 2009 balanced scorecard uses the same indicator definition and data source as the Province so that peer health unit comparisons can be made.

Key trends in performance over the period 2007-2009 are summarized below:

Profile

In comparison with seven peer Urban Centre health units in 2007, York Region had the highest population growth rate (20.8%), the highest percentage of residents speaking neither English or French (4%), the second highest percentage of the population who are immigrants (43%) and the second highest cost of a nutritious food basket for a family of four (\$143). (Table 1)



Exceptional circumstance

Redeployment of Public Health Branch staff in 2009 to respond to pandemic H1N1 resulted in a drop in the proportion of residents reached and in service delivery levels in certain program areas. This impacted all four divisions of the branch and their target populations.

Infectious Diseases Control Division:

The number of confirmed reportable disease cases increased by 25% in 2009, substantially increasing the case load of staff. (Table 4)

The number of infectious disease outbreaks in institutions remained relatively stable between 2007 and 2009. (Table 5)

The length of outbreak duration in York Region institutions prompted the Public Health Branch to increase efforts to educate facility staff about outbreak management practices and to monitor disease transmission patterns more closely. (Table 5)

The proportion of students who completed immunization series for hepatitis B, meningococcal C and human papillomavirus remained stable between 2007 and 2009 at about 70%. (Table 7)

Uptake of the human papillomavirus vaccine (at least one dose) increased by 30% between 2007/08 and 2009/2010. (Community Engagement Case Study 1)

Child and Family Health Division

The percentage of families screened and assessed through the Healthy Babies, Healthy Children program increased from 63% to 71% between 2007 and 2009 primarily as a result of a prenatal service partnership with local hospitals. (Table 8 and Integration and Responsiveness Case Study 2)

The number of clients seen in the breastfeeding clinic per full time equivalent staff per year increased from 235 in 2007 to 259 in 2009 because of a change in clinic visit protocol. (Table 9)

The number of children eligible for dental screening increased significantly from 171,535 in 2008 to 230,957 in 2009 due to an expansion of the Children In Need of Treatment program to include youth up until their 18th birthday. This contributed to a drop in the proportion of children screened, from 41% in 2007 to 22% in 2009. (Table 10)

Average attendance at one-time or drop-in prenatal and parenting education sessions has increased from 9 to 11 since they were redesigned based on needs assessment results indicating client preference for drop-in sessions instead of sessions requiring pre-registration. (Table 11)

Health Protection Division

Provincial introduction of a new risk classification tool for food premises resulted in a reclassification of some high risk premises to lower risk, contributing to a significant decrease in the number of required inspections between 2007 and 2009. This permitted a reallocation of divisional staff resources to address emerging issues such as the need to inspect a growing number of personal services settings. (Tables 12 and 13)

The number of personal services settings operating and requiring inspections increased by 16% between 2007 and 2008. (Table 13)

The number of required inspections of recreational water facilities increased by more than 50% between 2007 and 2009 because of the introduction of the new Ontario Public Health Standards, which increase the frequency of required inspections of public spas. (Table 14)



The Province requested that additional inspections of tobacco vendors be carried out in 2008 to provide education and ensure compliance with a new tobacco display ban. Consequently, the number of vendor inspections per allocated staff increased from 547 in 2007 to 596 in 2008. Inspection numbers then returned to status quo in 2009. (Table 15)

The proportion of tobacco vendor inspections resulting in *Smoke-Free Ontario Act* charges decreased from 12% to 3.7% between 2007 and 2009, indicating an increased level of compliance among vendors as a result of education and enforcement. (Table 15)

Healthy Lifestyles Division

The proportion of elementary schools participating and progressing through the Healthy Schools Program increased from 30.6% in the 2006/07 school year to 40.5% in the 2008/09 school year. (Table 17)

The proportion of workplaces reached by the Workplace Wellness program increased significantly between 2007 and 2009. (Table 18)

The number of schools providing breakfast and/or snack programs through Food for Learning grew from 21.8% in the 2006/07 school year to 34.7% in the 2008/09 school year as a result of expanded provincial investment in student nutrition programs as well as growing public interest in student nutrition. (Table 19)

The consistently low percentage of parents reached directly through the Injury Prevention program has prompted a program review to include more population health promotion strategies rather than direct client service. (Table 20)

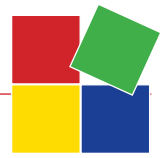
Financial Indicators

The Ministry-approved Public Health Branch budget increased by 4.1% between 2007 and 2008 and by 7.4% between 2008 and 2009. (Tables 21 and 22)

Like many of its peer health units, the York Region Public Health Branch underspent its approved budget in 2007. (Table 23) This trend continued in 2008 and 2009.

Total gross regional H1N1 response expenditures in 2009 were \$5.9 million. Except for an additional \$1.3 million of special funding contributed by the Province, York Region was able to absorb these costs within its approved cost-shared 2009 budget, through in-year under expenditures that had developed out of a number of circumstances, including regional delays in hiring in the spring and the re-direction of \$2.3 million of regular services to H1N1 response activities.

Although most health units experienced an increase in the gross cost per capita for public health between 2004 and 2008, York Region plateaued, likely a result of population growth. (Figure 7)

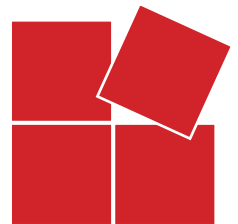


1.1 A Profile of York Region

1.2 The Public Health balanced scorecard

1.3 A Balanced Scorecard for York Region Public Health 2007

1.4 New Format of the Balanced Scorecard for York Region Public Health 2009



1.5 Understanding the key activity tables



1.1 A Profile of York Region

There are 36 public health units in Ontario, each mandated to provide a set of public health programs aimed at preventing illness and promoting and protecting the health of Ontario residents. These programs may be universal or targeted at specific populations. They may apply broad population health promotion strategies or provide direct client service. Each jurisdiction operates in a particular service delivery environment influenced by local demographics and social conditions that determine health and governance structures.

With a population of 975,906, York Region is the third largest health unit in the province, after the City of Toronto and the Region of Peel. It is one of eight Ontario public health units identified by Statistics Canada in 2007 as part of the Urban Centre **peer group** (Table 1).¹ Urban Centre health units are characterized by moderately high population density, a rapid population growth from 1996 to 2001, and a low percentage of government transfer income. Compared to other Urban Centres, York Region has the highest population growth rate (2002-2007) and the highest percentage of the population speaking neither English nor French (2006).

In 2010, Statistics Canada created new peer groups using 2006 Census data and updated socio-economic variables. In the new classification, York Region is part of a peer group that consists mainly of urban centres with high population density, a low proportion of aboriginal population and a high proportion of immigrants. Peel Region is the only other health unit in Ontario that is part of this peer group.

**Table 1:** York Region and other Urban Centre health units²

PUBLIC HEALTH UNIT	SIZE OF REGION (KM ²)	POPULATION (2007)	POPULATION GROWTH RATE (2002-2007)	% IMMIGRANTS	EMPLOYMENT RATE	% PERSONS UNDER 18 YEARS OF AGE IN LOW INCOME HOUSEHOLDS (AFTER TAX)	% WITH POST SECONDARY EDUCATION	% SPEAKING NEITHER ENGLISH NOR FRENCH	COST OF NUTRITIOUS FOOD BASKET FOR A FAMILY OF FOUR (2008)	BOARD OF HEALTH GOVERNANCE MODEL
Durham	2,523	595,354	10.7%	20.3%	67%	8.9%	60.1%	0.5%	\$141	Regional
Halton	967	468,980	16.5%	24.8%	69%	7.8%	69.3%	0.8%	\$133	Regional
Ottawa	2,778	846,169	3.5%	22.3%	65%	15.2%	71.6%	1.3%	\$140	Single-Tier
Peel	1,242	1,296,505	19.7%	48.6%	67%	14.5%	62.9%	3.7%	\$130	Regional
Waterloo	1,369	496,370	7.0%	22.3%	68%	9.1%	58.1%	1.5%	\$141	Regional
Wellington - Dufferin-Guelph	4,142	265,319	5.6%	16.1%	69%	6.7%	57.4%	0.8%	\$149	Autonomous
Windsor-Essex County	1,851	403,797	1.8%	22.4%	60%	12.2%	55.4%	1.7%	\$135	Autonomous
York	1,762	975,906	20.8%	42.9%	67%	11.5%	67.1%	4.0%	\$143	Regional
Ontario	907,574	12,803,861	5.8%	28.3%	63%	13.7%	61.4%	2.2%	\$141	n/a



The board of health for York Region is Regional Council. Most health units in Ontario are governed by autonomous boards of health composed of elected local councillors and nominated citizen representatives. In approximately one third of health units, regional or municipal council serves as the board of health.

1.2 The Public Health balanced scorecard

The balanced scorecard framework was originally developed by the private sector as a tool to complement and give context to financial performance measures through consideration of internal efficiencies, customer satisfaction, and employee learning and growth. It is generally made up of measures categorized into four quadrants, which together provide an overarching view of organizational performance. The scorecard does not encompass or report on all the activities of an organization, but provides a window on a select few activities as measures of performance and continuous quality improvements.

The balanced scorecard has been adapted for a variety of sectors. The Institute for Clinical Evaluative Sciences developed a framework for a public health balanced scorecard in 2004.³ This framework incorporates traditional types of public health measurement, such as health status reporting, with measures relating to business structure and processes that reflect the specific mandate, resources, organization, customer demands and span of influence of local public health units. It is intended to provide a concise, overall picture of the performance of the local public health unit and its board of health.

Figure 1: The four quadrants of the public health balanced scorecard





1) Health Determinants and Status

The Health Determinants and Status quadrant contains measures that typically make up health status reports, such as rates of disease morbidity and mortality, and measures of health behaviours and social determinants of health. It is often possible to compare indicators from this quadrant to standard populations such as peer groups or provincial averages. Measures of health determinants and status can be used to assess the relative need for public health services in a health unit, and are useful for estimating the potential contribution of public health services on population health outcomes. In isolation this quadrant does not adequately reflect health unit performance since health outcomes are influenced by a number of factors, such as poverty, literacy levels and employment rates, that lie beyond the direct scope of influence and responsibility of local public health units and their boards.

2) Resources and Services

This quadrant presents measures of the resources used by public health, including incremental and aggregate financial resources and staffing levels.

3) Community Engagement

Balanced scorecards usually include a client satisfaction quadrant based on the views of the individuals an organization serves to maintain accountability and improve service delivery. Since public health initiatives often target entire populations, the public health balanced scorecard emphasizes community engagement—that is, assessing community awareness and preferences, and ensuring community input into planning and service delivery.

4) Integration and Responsiveness

This final quadrant relates to the structural capacity of public health to integrate into the associated health care system as well as the capacity to continually transform services in response to evolving needs, issues and evidence. This is linked to the ability to work with other healthcare sectors and community agencies, a commitment to research and continuing professional development, and emergency preparedness and response.



1.3 A *Balanced Scorecard* for York Region Public Health 2007

In 2007, York Region Public Health began working on a balanced scorecard based on the Institute for Clinical Evaluative Sciences framework as a first attempt to develop a set of performance measures at the health unit level. The four quadrants of the scorecard were populated with indicators selected through an inclusive, participatory process involving staff from across Public Health Branch program areas. The resulting report, *A Balanced Scorecard for York Region Public Health 2007*, provided a baseline look at local public health programs and services and the context in which they are delivered.⁴ An evaluation of the 2007 report was conducted to determine the effectiveness of the process used to develop the balanced scorecard and to assess the balanced scorecard's usefulness in informing decision-making and enhancing practice. York Region Public Health staff have published two articles describing the development and evaluation of the *Balanced Scorecard for York Region Public Health 2007*, which outline conceptual deliberations and processes of staff engagement and feedback.

Weir, E., d'Entremont, N., Stalker, S., Kurji, K., Robinson, V. (2009). Applying the balanced scorecard to local public health performance measurement: deliberations and decisions. *BMC Public Health* 9:127.⁵

Cholewa, S., Moran, K., Cheung, Y. (2010). An evaluation of the consensus-building process to develop a balanced scorecard for York Region Public Health 2007. *Healthcare Quarterly* 13(2).

1.4 New Format of the *Balanced Scorecard* for York Region Public Health 2009

After the release of the *Balanced Scorecard for York Region Public Health 2007*, three factors contributed to format and content modifications for this subsequent balanced scorecard.

1) **Process and outcome evaluation results**

Feedback from participating staff and receptive audiences of the 2007 balanced scorecard identified a number of recommendations for the next report. One recommendation was to re-evaluate the vast number of activities and indicators included in the 2007 report to reduce and refine them to a set of representative indicators that link to decision-making, provincial standards, program planning and evaluation and Public Health Branch strategic planning. Another suggestion was to include benchmarks and targets, such as comparison with annual trends and peer health units, in future versions of the balanced scorecard to help with data interpretation and utilization of the report from a decision-making standpoint. A common suggestion was to improve the context of the data presented in the balanced scorecard by providing more text and interpretation.

2) **Provincial performance management initiative**

The Province is in the process of developing and implementing a public health performance management framework which incorporates continuous quality improvement and enhanced program and organizational accountability. The first product of this process was the *Initial Report on Public Health*, released in August 2009 to provide an overview of the scope of public health and the operations of public health programs in Ontario.⁶ Where possible, the 2009 balanced scorecard uses the same indicator definitions and data sources as the Province so that peer health unit comparisons can be made.

Current provincial initiatives related to public health performance management include the development of accountability agreements and organizational standards for public health units. Accountability agreements will set out obligations of provincial ministries and public health units, and are expected to include new performance expectations and reporting requirements for health units. Organizational standards are anticipated to be implemented as part of the proposed accountability agreements. These standards provide a baseline of expectations to help assess the functioning of the whole public health organization. Future versions of the balanced scorecard will incorporate provincially-developed measures as they become available and as the public health performance management framework expands in scope and content.



3) New guidelines for indicator selection

Lastly, and in line with the recommendations of the 2007 balanced scorecard evaluation, new guidelines for indicator selection were created with input from epidemiologists, the continuous quality improvement coordinator and frontline program delivery staff to ensure more robust and valid data. Indicators were reviewed and assessed on the basis of their validity, directionality, feasibility, reliability, timeliness and whether or not they were population-based using denominator data that permitted comparability of rates and ratios with peers and over time.

In order to make clearer the linkages between indicators and operational and strategic priorities, the *Balanced Scorecard for York Region Public Health 2009* is arranged in sections corresponding to the four programmatic divisions of the York Region Public Health Branch.

- Infectious Diseases Control
- Child and Family Health
- Health Protection
- Healthy Lifestyles

Indicators that measure Health Status and Resources and Services were selected by Public Health Branch staff according to the new, more rigorous selection criteria, and are presented in three to four **key activity** tables per division. Tables include 2007, 2008 and 2009 data wherever available, and explanatory text provides context for branch activities. Observable trends are highlighted. When indicators replicate those of the Initial Report on Public Health, a comparison with York Region Urban Centre peer health units is presented. Financial measures, which apply across the Public Health Branch, are considered separately in section 7.0.

In the Community Engagement and Integration and Responsiveness quadrants, feasible and relevant quantitative measures were not readily available. Instead, case studies were selected to provide in-depth examples of how the Public Health Branch assesses community awareness and preferences, works in partnership with other agencies and sectors, and anticipates and responds to emerging issues and evidence.



1.5 Understanding the key activity tables

Table 2 describes the types of indicators in the key activity tables.

Each balanced scorecard table is based on one **key activity** (a process, task, or service that takes up the bulk of staff time/resources, or that addresses a strategic priority).

For each key activity, the **target population** eligible to receive the activity is identified. Targets may include a demographic segment of the population, client groups, community partners, or sites where service is delivered.

Table 2: Key activity table template

INDICATOR TYPE	INDICATOR DESCRIPTION
Level of Need/ Demand	Total number of target population (population eligible to receive the activity) in York Region. Usually an absolute number.
Reach	Proportion of target population that are reached or engaged with activity. Number of target population reached or engaged divided by level of need/demand (i.e. divided by total number of target population in York Region).
Level of Service	Reach relative to human resources devoted to program. Number of target population reached or engaged divided by number of staff members that dedicate time to activity. Includes support staff as applicable. Note: In most programs, staff members are assigned to a variety of functions or activities and the time devoted to a specific activity is not tracked. Consequently, in most Public Health Branch program areas it is not possible to calculate the average length of time devoted to each activity by each staff member. Therefore, the level of service indicator reflects the number of employees participating in an activity rather than a true full-time equivalent.
Effectiveness	Measures that indicate program is achieving desired outcome. Short-term measures of effectiveness are related to knowledge, awareness, and attitudes. Individual programs may also have other measures of effectiveness.
Health Status	Measures of health status help to identify the relative level of need for public health interventions. Changes in health status over time may also partially reflect the effectiveness of public health interventions; however, such conclusions should be drawn cautiously given the multiple social determinants that in combination impact health. Many of these extend beyond the direct scope and responsibility of the local health unit and its board. Where available, a comparison is provided to health status measures from Urban Centre peer group health units.

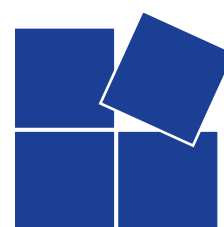
2.0 EXCEPTIONAL CIRCUMSTANCES

2008-2009



2.1 Impact of pandemic influenza A H1N1 on
service delivery

2.2 Implementation of the Ontario Public
Health Standards





2.1 Impact of pandemic influenza A H1N1 on service delivery

Extensive resources were devoted to carrying out the enhanced public health response to pandemic influenza A H1N1 in 2009, leaving a skeleton staff to continue providing critically essential public health services. This resulted in a decline in service delivery levels.

The first wave of H1N1 (spring and summer 2009)

In the spring of 2009, a new, unique strain of H1N1 influenza A virus was first detected in Mexico and the southwestern United States. Since most people had no immunity to the new virus, it spread rapidly into many countries including Canada. As it began causing widespread illness and some deaths, public health organizations throughout the world activated established pandemic plans. On June 11, 2009, because of evidence of widespread transmission in several countries and cases of severe illness in previously healthy young adults, the World Health Organization declared an influenza pandemic of mild to moderate severity.

The first confirmed case of the novel H1N1 virus was detected in York Region in late April, and further cases followed. Unlike typical seasonal influenza, the H1N1 flu virus continued to cause an unusually high level of illness even during the summer months. From April to August 2009, there were 532 confirmed influenza A cases reported in the Region.* Forty residents required hospitalization, but there were no associated deaths. Based on epidemiological analyses, public health expert advice, and the influenza season experience of countries in the southern hemisphere, the Ontario Ministry of Health and Long-Term Care advised public health units to prepare for a second wave of H1N1 influenza in the fall.

Pandemic planning

Locally, the Co-ordinated Local Health System Pandemic Plan for York Region guided the Region's response to H1N1. This plan was developed over several years with local partners in accordance with the guidelines of the Ontario Health Plan for an Influenza Pandemic, which assigns municipal governments and public health units responsibility for coordinating the local response to an influenza pandemic, including maintaining a local surveillance system to monitor levels of influenza activity, coordinating vaccine and antiviral distribution through the existing health care system, and enhancing this system by operating mass immunization clinics and alternate flu assessment centres.

Extensive planning occurred throughout the summer of 2009, especially in developing a delivery strategy in anticipation of the arrival of H1N1 vaccine, and preparing to operate community flu assessment centres. The York Region Public Health Branch collaborated with various agencies, including the Ministry of Health and Long-Term Care, school boards, local municipalities, local hospitals, Community Care Access Centres, long-term care homes, Emergency Medical Services, primary care physicians, Local Health Information Networks, and other healthcare partners. Other public health activities included educating the community about public health measures and personal infection control practices, conducting influenza case management and contact follow up, and enhancing surveillance to track flu activity in the community and measure its impact on citizens.

The second wave of H1N1 (fall 2009)

The second wave of H1N1 that occurred in the fall of 2009 resulted in more illness than the seasonal flu, but was much less severe than predicted. From September 2009 to December 2009, there were 361 confirmed cases of H1N1 in York Region.* Of these cases, 134 required hospitalization and three residents, all in their fifties with underlying medical conditions, died. This compares with 23 hospitalizations and two deaths reported to York Region Public Health in the 2007-2008 influenza season. Rates of confirmed cases of H1N1 and influenza-like illness peaked the week of November 7- 15, 2009 at two to three times the level observed at the peak of a typical flu season.

* The number of confirmed cases underestimates the true extent of illness in the community since testing for H1N1 was restricted to severe cases.



York Region Public Health response measures

1) Mass immunization clinics

York Region operated five mass immunization clinics during the second wave of H1N1 in the fall of 2009. Over a period of six weeks, the Public Health Branch administered 106,161 doses of the H1N1 influenza vaccine. During a typical influenza season, York Region Public Health administers 13,400 doses of vaccine through seasonal influenza clinics. The general locations of the H1N1 clinics were identified using Geographic Information Systems (GIS) tools, based on age distribution, birth rate, and patterns of hospital use. On October 28, 2009, the immunization clinics at Vellore Village (Vaughan) and Ray Twinney (Newmarket) opened. The three remaining immunization clinics at the former Markham hydro building (Markham), Rouge Woods (Richmond Hill), and Sutton Kinsman Hall (Georgina) opened on Monday, November 2, 2009. All five community immunization clinics closed on December 13, 2009.

2) Community flu assessment centres

To provide surge capacity for an overwhelmed acute health care system, York Region operated two community flu assessment centres in Vaughan and Markham to assess residents with mild to moderate influenza and provide prompt access to antiviral treatment. Since the H1N1 second wave arrived and peaked earlier than anticipated, these centres were opened earlier than anticipated, on November 3 and November 11, 2009 respectively. A third centre was ready to open on November 15, 2009 but did not because by that time the volume of cases at the operating community flu assessment centres was low and pressures on the hospitals had eased. In accordance with York Region's coordinated plan, the three hospitals in the Region also opened dedicated onsite flu assessment centres.

A total of 472 patients were seen at York Region's flu assessment centre in Vaughan over a period of 20 days, and 113 patients were seen at the Markham location over 12 days.

3) Communication strategies

To meet the public demand for information on H1N1, York Region disseminated updates, information, and health guidance through media releases, the regional website, and emails, as well as through teleconferences with key stakeholders. The Public Health Branch also enhanced the staffing and telephone capacity of the Health Connection public health telephone information service for the general public. The activation of the Health Emergency Operations Centre, a physical location with comprehensive telecommunications capabilities, helped coordinate communication and other aspects of emergency response between the Ministry of Health and Long-Term Care, public health, and other sectors.

Staff redeployment

Responding to the second wave of pandemic influenza A H1N1 in the fall of 2009 required the redeployment of more than three quarters of Public Health Branch staff, as well as select regional staff from other branches and departments. To staff the immunization clinics and flu assessment centres and to coordinate communications and decision-making, 335 Public Health Branch staff were redeployed from their usual positions. The length of redeployment varied from a number of weeks to several months, depending on the role of the staff member. It required staff to assume roles and responsibilities outside their usual competencies, work hours and location. An additional 56 regional employees and 118 individuals from temporary agencies, primarily nurses and clerks, also staffed these response activities.



Financial impact of H1N1

Total gross regional H1N1 response expenditures were \$5.9 million. Except for an additional \$1.3 million of special funding contributed by the Province, York Region was able to absorb these costs within its approved cost-shared 2009 budget, through in-year under expenditures that had developed out of a number of circumstances:

- \$2.3 million of regular services were re-directed to manage H1N1.
- Regional delays in hiring in the spring created financial flexibility to absorb costs.
- Programs were managed throughout the first three quarters of 2009 in line with ongoing messages of constraint from the Ministry and Health and Long-Term Care. The Ministry did not advise the Public Health Branch of their approved funding allocation (exceeding what was requested) until mid September 2009.

Maintenance of essential services

A reduced number of Public Health Branch staff were retained within their respective divisions during the enhanced public health response to H1N1 (Table 3). This ensured business continuity of critical essential public health activities. In most other public health programs, there was a noticeable decline in the level of service provided.

Table 3: Summary of essential services provided during the enhanced public health response to H1N1, October 28, 2009 to December 31, 2009

DIVISION	ESSENTIAL SERVICES
Child and Family Health	• Phone support on infant feeding and for clients in the Healthy Babies, Healthy Children program • Group support for Transitions for Parenting • Assessments for urgent dental needs
Health Protection	• Response to inquiries about infection control, food safety, water safety, rabies, and health hazards through the Health Connection telephone information service • Inspections of priority premises such as food vendors, day cares, long term care, hair salons, tattoo parlours, etc. • Investigation of complaints that potentially could result in a health hazard to the public • Response to adverse drinking water reports relating to small drinking water and/or municipally owned systems • Investigation of outbreaks and suspect food poisoning incidents • Investigation of animal bites and possible exposure to rabies • Scheduled PROTON classes • Health Protection on-call system
Healthy Lifestyles	• Health Connection public health telephone information service
Infectious Diseases Control	• Reportable disease case management and data entry • Outbreak investigations • Vaccine ordering and distribution for routine publicly funded vaccines • Vaccine queue line • Surveillance of pH1N1 and other reportable diseases • Infectious Diseases Control on-call system



Successes and challenges of the regional H1N1 response

The Public Health Branch faced several challenges during the course of its H1N1 response. These included unanticipated high demand for the H1N1 vaccine and long line-ups when mass immunization clinics first opened and a vaccine shortage announced by the manufacturer shortly thereafter, resulting in the need to limit the vaccine to provincial priority groups. Challenges were also faced in relation to translating the evolving science about the vaccine for the public and health care providers, and dealing with provincial vaccine packaging and reporting requirements, which discouraged local vaccine delivery agents.

An extensive recovery planning process included debriefings and surveys with all stakeholders involved in H1N1 response-related activities. Public Health Branch staff prepared a final report detailing York Region's pandemic influenza A H1N1 2009 experience to identify areas of success and areas to improve in future emergency response efforts. The report concludes with recommendations that create a foundation and direction for future planning.



2.2 Implementation of Ontario Public Health Standards

New Ontario Public Health Standards, which came into effect in January 2009, are the basis of Public Health Branch activities

Following the first comprehensive, consultative review and redevelopment of guidelines for mandatory public health programs and services in Ontario in 11 years, the Ontario Public Health Standards came into effect on January 1, 2009. Mandatory programs, which articulate the minimal standards expected of boards of health in Ontario, are legislated under the provincial *Health Protection and Promotion Act*.

The Ontario Public Health Standards were developed over a two-year period in close consultation with the public health sector. They are science and evidence-based. In contrast to the previous guidelines for mandatory public health programs, which were prescriptive in nature, the new standards attempt to balance the need for provincial standardization with responsiveness to local contexts. Twenty-five accompanying protocols provide further detail to help boards of health operationalize specific requirements in areas where standardization is required.

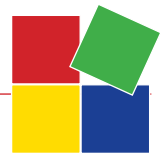
The major program areas of the Ontario Public Health Standards are:

- 1) Infectious diseases
 - Infectious diseases prevention and control
 - Sexual health, sexually transmitted infections and blood-borne infections (including HIV)
 - Tuberculosis prevention and control
 - Vaccine preventable diseases
- 2) Environmental health (related to public health program areas)
 - Food safety
 - Safe water
 - Health hazard prevention and management
 - Rabies prevention and control
- 3) Chronic diseases and injuries
 - Chronic disease prevention
 - Prevention of injury and substance misuse
- 4) Emergency preparedness
 - Public health emergency preparedness
- 5) Family health
 - Reproductive health
 - Child health (including dental)
- 6) Foundational standard (to support evidence-informed practice)
 - Population health assessment
 - Surveillance
 - Research and knowledge exchange
 - Program evaluation

The Balanced Scorecard for York Region Public Health 2009 includes data from 2007 and 2008, when the previous guidelines were in place, and 2009 data collected after the implementation of the new standards. In some cases, new goals, targets, or definitions have been introduced as a result of the revised standards. Overall, however, core public health programming has remained relatively unchanged. No new funding accompanied the revised standards.

The new program standards will eventually be linked with organizational standards and specific performance measures for increased accountability as part of the Province's public health performance management framework.

3.0 INFECTIOUS DISEASES CONTROL DIVISION

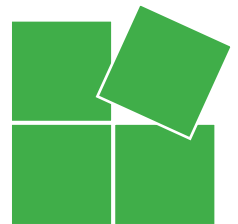


3.1 Divisional programs and services

3.2 Key activity tables

3.3 Community Engagement
Case Study 1

3.4 Integration and Responsiveness
Case Study 1





3.1 Divisional programs and services

The Infectious Diseases Program protects people living and working in York Region from infectious diseases by carrying out various functions to help prevent and control the spread of infection in long-term care homes, retirement homes, hospitals and the community at large. Programs and services provided include:

- Management of laboratory-confirmed reportable disease cases
(e.g., communicable diseases, sexually transmitted infections and blood-borne infections, Tuberculosis. Includes contact follow-up.)
- Management and investigation of institutional outbreaks
 - Management of outbreaks in the community
 - Surveillance in relation to chronic disease indicators, injuries/accidents, reproductive and child health and infectious diseases
 - Resource to health care professionals and the community on various infectious diseases control issues
 - Sexual health clinic services
 - Harm reduction program
 - Promotion of healthy sexual relationships
- School-based immunization clinics
 - Community immunization clinics
 - Immunization review in schools and daycares
 - Travel consultation and advice to the community
 - Monitoring of and education about vaccine storage and handling practices
 - Vaccine distribution

For the purpose of this scorecard, each division was asked to restrict indicator development and collection to three or four key activities within the division. Highlighted programs and services are featured in key activity tables.



3.2 Key activity tables

Table 4: KEY ACTIVITY: Managing laboratory-confirmed reportable disease cases
(target: residents with a laboratory-confirmed reportable disease)

INDICATOR TYPE	INDICATOR DESCRIPTION	2007	2008	2009
Level of Need/ Demand	Number of confirmed reportable disease cases* in York Region ^a	3,426	3,469	4,347
Reach	Proportion of reportable disease case investigations that were completed ^a	97.2%	96.9%	96.1%
Level of Service	Number of completed reportable disease case investigations per allocated staff**	148.0	143.0	177.8
Effectiveness	Proportion of case investigations*** started:			
	within 24 hours of notification	70.1%	73.5%	72.6%
	within 72 hours of notification	6.3%	4.9%	7.1%
	after 72 hours of notification	23.6%	21.6%	20.3%
Health Status	Reportable disease incidence rate in York Region ^{a, c} (rate per 100,000 population)	356.5	350.8	427.7

^aIntegrated Public Health Information System (iPHIS), ^cPopulation Estimates,

* Confirmed cases meet the provincial surveillance case definition as per the Integrated Public Health Information System manual and the *Infectious Disease Protocol 2008* (or as current), Appendix B. The 2009 confirmed case count may increase further due to the lag period in case reporting, investigation and confirmation, particularly in diseases such as Tuberculosis and hepatitis B.

** Staff time is also devoted to additional activities.

*** This indicator excludes hepatitis B, hepatitis C, and HIV/AIDS cases, due to the nature of these investigations and the typical lag time associated with initiating case investigation.

NB. Missing data for investigation start date ranged between 31.9% (2007) and 38.0% (2009).

KEY TRENDS:

Case management service delivery levels increased in 2009 due to a 25% rise in confirmed reportable disease cases from 2008 (3,469) to 2009 (4,347). This is attributable in part to the increased incidence of influenza during the H1N1 pandemic, as well as to an increase in mumps, chlamydial infections, and adverse events following immunization during the delivery of H1N1 mass immunization clinics.



Case management involves the timely investigation of and follow-up of clients with suspected or confirmed **reportable diseases**, such as **enteric** and respiratory communicable diseases, sexually transmitted infections and tuberculosis. Under the authority of the *Health Protection and Promotion Act*, these diseases must be reported to the local Medical Officer of Health by physicians, laboratories, hospitals, schools, and **institutions**. Adverse events following immunization are also deemed reportable under this Act. Case management may involve assessment, screening (by telephone, mail, email or in person) and ordering diagnostic tests under Medical Officer of Health directives. It may also include counselling and health education regarding transmission, symptoms, complications, prevention and contact follow-up. Human and other resource requirements for completing case investigations vary by reportable disease.

The number of **confirmed reportable disease cases** does not reflect the magnitude of case investigations conducted or the true burden of illness due to reportable diseases in the Region, as many cases that are reported and investigated do not meet the provincial case definition and subclinical cases may not be reported to the public health unit.

The time between notification to public health and initiation of case investigation varies by reportable disease. Some diseases, deemed by the health unit to be 'high priority' because of their behaviour and risk, require initiation of investigation within 24 hours of notification, whereas investigations for lower priority infections are not so time sensitive. Reportable disease classifications into high and low priority categories may vary across years due to factors including severity of symptoms, impact of control measures, and provincial and local epidemiology. The time between public health notification and the case investigation start date was delayed for low priority conditions in 2009 due to the H1N1 pandemic and temporary changes to low priority case management practices.

While attempts are made to follow up with all clients with confirmed reportable diseases, it is not always possible to achieve a **completed reportable disease case investigation**. Some cases may be classified as "lost to follow-up," "untraceable," or "pending" after several contact attempts.

The increased number of reportable disease cases confirmed in 2009 can be attributed to the increased incidence of influenza, mumps, chlamydia and adverse events following immunization. The increase in confirmed cases of influenza during 2009 was due to the H1N1 pandemic. The pandemic also contributed to the increase in the number of confirmed adverse events following immunization because of the delivery of mass immunization clinics as part of the H1N1 response. The increase in cases of mumps and chlamydia is consistent with provincial trends. Of note is that a **statistically significant** decrease in the number of confirmed pertussis cases was observed in 2009. This is a result of a provincial change in reporting laboratory results for pertussis testing, which diminished the magnitude of increase in total confirmed reportable disease cases between 2008 and 2009⁷.

The 1.6% (356.5 to 350.8) decrease in the reportable disease incidence rate from 2007 to 2008 is not statistically significant. A 21.9% (350.8 to 427.7) increase in the reportable disease incidence rate from 2008 to 2009 is statistically significant and suggests a substantial increase in client need for service.



Table 5: KEY ACTIVITY: Managing and investigating institutional outbreaks
(target: long-term care homes, retirement homes, child care facilities, schools and hospitals)

INDICATOR TYPE	INDICATOR DESCRIPTION	2007	2008	2009
Level of Need/ Demand	Number of confirmed outbreaks in York Region institutions ^a	85	85	91
	Number of York Region institutions*	1,000	994	1,019
Reach	Proportion of confirmed outbreaks reported to public health:			
	within 1 business day	69.4%	65.8%	65.9%
	within 2 business days	17.7%	11.8%	20.9%
	after 2 business days	12.9%	22.4%	13.2%
Level of Service	Number of outbreak investigations per allocated staff**	8.5	8.9	9.1
Effectiveness	Average number of days in outbreak (range)	16.6 (6 – 57 days)	16.4 (4 – 51 days)	14.8 (1 – 50 days)
Health Status	Respiratory [R] and enteric [E] infections outbreaks in long-term care homes ^a	R: 36*** E: 18 (September 1, 2006 to August 31, 2007)	R: 38 E: 14 (September 1, 2007 to August 31, 2008)	R: 33 E: 21 (September 1, 2008 to August 31, 2009)
	Influenza-related hospitalizations ^a	60 (September 1, 2006 to August 31, 2007)	23 (September 1, 2007 to August 31, 2008)	63 (September 1, 2008 to August 31, 2009)
	Influenza-related deaths ^a	2 (September 1, 2006 to August 31, 2007)	2 (September 1, 2007 to August 31, 2008)	2 (September 1, 2008 to August 31, 2009)

^aIntegrated Public Health Information System (iPHIS)

* The number of child care centres may vary substantially throughout the year due to closures and openings, which may not immediately be reported to the health unit.

** Staff time is also devoted to additional activities.

*** Discrepancy between 2006-07 York Region value reported here and value reported in the Initial Report on Public Health reflects a facility classification error (provincial indicator value is over-reported).

KEY TRENDS:

- Measures related to outbreak activity in York Region institutions remained fairly stable from 2007 to 2009 in spite of H1N1 pandemic activity. The Public Health Branch continues to participate in educational initiatives to enhance outbreak management practices, such as timely outbreak notification, in regional institutions.
- The length of outbreak duration in institutions prompted the division to increase efforts to educate facility staff about outbreak management practices, and to monitor more closely transmission patterns.

Table 6: Ratio of respiratory infection outbreaks to long-term care homes, York Region Public Health and peer public health units, 2006–2007 influenza season⁸

PUBLIC HEALTH UNIT	NO. OF RESPIRATORY OUTBREAKS	NO. OF LONG-TERM CARE HOMES	RATIO
Durham	7	26	1:3.7
Halton	25	18	1:0.7
Ottawa	52	40	1:0.8
Peel	8	36	1:4.5
Waterloo	26	33	1:1.3
Wellington-Dufferin-Guelph	13	30	1:2.3
Windsor-Essex County	8	24	1:3.0
York	36	28	1:0.8

Public Health Branch Infectious Diseases Control staff investigate outbreaks in **institutions**. Respiratory and **enteric** outbreaks are investigated in **long-term care homes**, retirement homes, schools and hospitals. Within child care facilities, investigations are limited to enteric outbreaks. Respiratory outbreaks are not investigated in these facilities for a number of reasons, including the limited ability to implement infection control practices (e.g., isolation), lack of medical staff on site to collect biological specimens, and the lack of an adequate provincial case definition for respiratory outbreaks in this setting.

Criteria for initiating outbreak investigations in institutions vary for respiratory and enteric illnesses. Respiratory outbreak investigations are initiated when one laboratory-confirmed case of influenza has been identified, when three cases of acute respiratory tract illness occur within 48 hours in one unit or floor, or when more than one unit has a case of acute respiratory illness within 48 hours.⁹ Enteric outbreak investigations are initiated when three or more cases with signs and symptoms of gastroenteritis are identified in a specific unit or floor within a four-day period, or when three or more units or floors have a case of gastroenteritis within 48 hours.¹⁰ In addition, an outbreak can be declared at any time by the Medical Officer of Health or the Medical Director of the long-term care home.

Institutional staff are required to report outbreaks to York Region Public Health to facilitate timely investigation. Child care staff are required to report enteric outbreaks on the earliest business day (accounting for weekend closures), whereas staff in other institutions (e.g., long-term care homes) are required to report respiratory and enteric outbreaks upon meeting the criteria. Timeliness of reporting may be affected by numerous factors including lack of awareness regarding reporting requirements among weekend and casual facility staff, breaks in communication among facility staff and, in child care facilities, dependence on parents/guardians to provide notification of their child's illness. One intended outcome of ongoing Public Health Branch educational initiatives (such as train-the-trainer sessions) is to improve outbreak management practices in regional institutions, including improving timeliness of outbreak reporting, with a goal of decreasing the number of days in outbreaks.



The ratio of outbreaks to the number of long-term care homes in a jurisdiction may reflect surveillance system quality rather than true burden of illness. Health units with more robust surveillance systems may report outbreaks more often.

There was no significant change in the level of service delivery to investigate institutional outbreaks in York Region between 2007 and 2008, or between 2008 and 2009. While the H1N1 pandemic did contribute to an increase in influenza-related hospitalizations during the 2008/09 influenza season, it did not significantly impact the number of respiratory outbreaks in long-term care homes or the average number of days in outbreaks. The minimal impact of H1N1 on the long-term-care population is consistent with provincial patterns and our understanding that elderly individuals were less susceptible to this virus. H1N1 activity did impact the school population and absenteeism rates; however, these impacts were not considered or reported as “outbreaks” since in a pandemic, investigation and containment in schools is ineffective because widespread disease transmission is already happening in the community.

Figure 2: Number of confirmed influenza A (pandemic influenza A H1N1 and non-subtyped) cases in York Region and percentage of York Region schools reporting greater than 10% student absenteeism due to all illnesses, April 19 – December 13, 2009¹¹

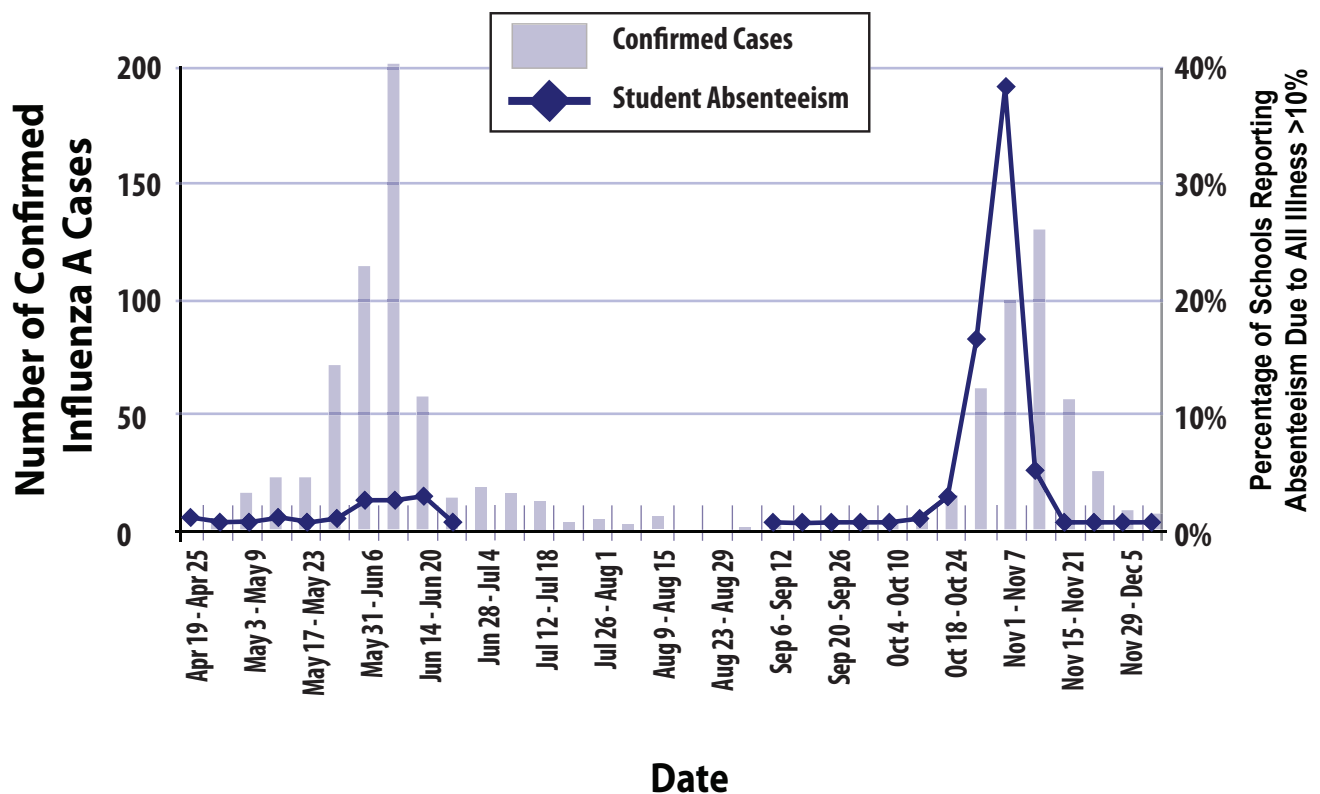




Table 7: Key Activity: Providing school-based immunization clinics (target: students eligible to receive voluntary immunizations)

INDICATOR TYPE	INDICATOR DESCRIPTION	2006/07 SCHOOL YEAR*	2007/08 SCHOOL YEAR*	2008/09 SCHOOL YEAR*
Level of Need/Demand	Number of students eligible** to receive voluntary immunizations ⁱ	17,544	19,448	19,142
Reach	Proportion of eligible** students who received a voluntary immunization ⁱ			
	Hepatitis B vaccine	97.2%	87.0%	88.2%
	Meningococcal C vaccine	53.1%	56.2%	62.1%
	HPV vaccine	n/a	53.4%	59.8%
Level of Service	Number of immunizations per allocated staff***	11,180.8	11,341.1	11,763.0
Effectiveness	Proportion of students with complete immunization series ^{i,****} (Hepatitis B, Meningococcal C, HPV)	69.0%	67.0%	70.2%
Health Status	Hepatitis B incidence rate ^{a,c} (rate per 100,000 population)	46.8 (January 1 - December 31, 2007)	38.6 (January 1 - December 31, 2008)	35.7 (January 1 - December 31, 2009)
	Meningococcal disease incidence rate ^{a,c} (rate per 100,000 population)	0.7 (January 1 - December 31, 2007)	0.1 (January 1 - December 31, 2008)	0.3 (January 1 - December 31, 2009)

^aIntegrated Public Health Information System (iPHIS), ^cPopulation Estimates, ⁱHepatitis B, Meningococcal C and Human papillomavirus (HPV) Clinic Statistics Spreadsheets

*School year begins in September and ends in June of the following year.

** Eligible students are those who require one or more doses of voluntary immunizations. This number includes – 2006/07 school year: 12,012 grade 7 students and 5,532 high school students for the meningococcal C vaccine catch-up program; 2007/08 school year: 12,972 grade 7 students and 6,476 grade 8 females; 2008/09 school year: 12,272 grade 7 students and 6,870 grade 8 females. It does not include students who have received voluntary immunizations previously.

*** Staff time is also devoted to additional activities.

**** The proportion of students who received a complete immunization series for hepatitis B (2 doses), HPV (3 doses) or meningococcal C (1 dose) vaccine includes previously immunized students.



KEY TRENDS:

- The overall proportion of students completely immunized against hepatitis B, HPV and meningococcal C remained stable between 2007 and 2009.
- A slight decline in uptake of school-based vaccination from the 2006/07 to the 2007/08 school year was likely due to the introduction of a new HPV vaccine program.
- A decline in the proportion of students immunized against hepatitis B between 2006/07 and 2008/09 may be due to a greater number of students refusing immunization.

Infectious Diseases Control Division staff provide three **voluntary immunizations** through clinics held in York Region District School Board and York Catholic District School Board facilities, as well as in some private schools. Provincial eligibility criteria for these immunizations changed between the 2006/07 and 2007/08 school years. In the 2006/07 school year, eligible students included those enrolled in grade 7 (hepatitis B vaccine) and grade 10 (meningococcal C vaccine). In the 2007/08 school year, grade 7 students were eligible to receive both the hepatitis B and meningococcal C vaccines, and grade 8 female students were eligible to receive the human papillomavirus (HPV) vaccine.

The immunization clinic reach indicator reflects the number of students receiving at least one dose of vaccine during the school year. One student may have been eligible to receive more than one vaccine during the same school year. This indicator does not account for students receiving catch-up vaccinations to complete their immunization series, or students who were previously immunized. A decline in the proportion of the target population who received at least one dose of the hepatitis B vaccine was observed between the 2006/07 and 2008/09 school years, likely due to an increased proportion of students refusing immunization. Increases in the proportion of students immunized were observed for meningococcal C vaccine between the 2006/07 and 2008/09 school years and HPV vaccine between the 2007/08 and 2008/09 school years. Implementation of these vaccines was new to the immunization program during this period, and a low level of vaccine uptake during the first years of program implementation may be expected. In addition, initial uptake of HPV vaccine may have been low due to the limited time frame between provincial implementation and local program start-up as well as controversy surrounding the HPV vaccine. Recent strategies geared towards improving uptake of voluntary immunizations in school based clinics include providing multiple notifications of upcoming immunization clinics to parents/guardians, reviewing and updating materials on the immunization website for parents, guardians and teachers, and increasing awareness about additional opportunities for immunization at a later time (i.e., at a subsequent immunization clinic or through family physicians).

The proportion of students with complete immunization series reflects the proportion of students who received one dose of meningococcal vaccine, two doses of hepatitis B vaccine or three doses of HPV vaccine either at York Region school-based clinics or in other settings. From 2007 to 2009, this proportion was fairly stable. An increase in the number of students who were previously immunized was observed, which may be due in part to an increase in the number of students who have immigrated to Canada from countries with different immunization schedules. The higher the proportion of the school population that is immunized, the lesser the potential for outbreaks of vaccine preventable diseases, because immunized individuals protect non-immunized individuals from these diseases by limiting transmission. The proportion of students receiving a complete immunization series for voluntary immunizations does not account for students who complete their immunization series during the following school year.

H1N1 did not significantly impact the level of school immunizations delivered because the September 2008-June 2009 school year had finished by the time the H1N1 vaccine was available. Approximately 12 school clinics were cancelled and rescheduled for 2010.



3.3 Community Engagement Case Study 1: Human papillomavirus (HPV) vaccine student survey

Human papillomaviruses (HPVs) are a group of more than 100 related viruses, some of which have been associated with certain types of cancer, including cervical cancer.¹² In August 2007, the Ontario Ministry of Health and Long-Term Care announced a voluntary school-based vaccination program through public health units, providing a three-dose schedule of HPV vaccine to female grade 8 students. As part of the program's implementation, the Ministry developed educational materials on HPV, cervical cancer and the vaccination program, which were provided along with consent forms to eligible students and their parents/guardians prior to the scheduled clinics.

To inform staff on how best to deliver the school-based program, the Infectious Diseases Control Division administered a survey on factors influencing the decision to receive the HPV vaccine to grade 8 female students attending school-based vaccine immunization clinics in the 2007/08 school year. Survey results were intended to provide information about parental response to pre-clinic education materials, the usefulness of student education sessions delivered immediately prior to HPV immunization, and the major reasons why students wanted to get the vaccine.

York Region Community and Health Services staff developed the student survey. Eligible schools were identified in both the York Catholic District School Board and York Region District School Board based on planned immunization clinic dates. A random sample of schools was selected (21 public and 10 Catholic schools), with a goal of surveying approximately 10% of students eligible to receive HPV vaccine. Public health nurses and nursing students administered paper-based surveys immediately after students were given the choice to receive the vaccine. A total of 652 surveys were collected during the four-week data collection period, for an overall response rate of 85.7%.

Results of the student survey revealed that 95.5% of York Catholic District School Board students and 89.2% of York Region District School Board students indicated that their parents/guardians read the educational materials. Of the students whose parents/guardians did not read the materials, less than 15% indicated that language was the reason that the information package was not read. In regard to the 10-minute education session delivered by Infectious Diseases Control staff immediately prior to immunization, over two-thirds (approximately 67%) of students surveyed in both boards felt that it had increased their understanding of HPV. Similarly, 62.2% of York Region District School Board students and 57.9% of York Catholic District School Board students felt that their understanding of the vaccine had increased.

Factors identified by students as being influential in their decision to receive the HPV vaccine included knowledge that the HPV vaccine protects against cervical cancer and genital warts, opinions and values of parents/guardians, and having information packages sent home. In regard to refusing the vaccine, a small proportion of survey respondents indicated that fear of needles and the need for further information about long-term effects of the HPV vaccine may have deterred some students from participating in the voluntary program. The results of the survey reinforced the utility of providing pre-immunization educational materials. Currently, parents/guardians of eligible students receive notification in the spring of immunization clinics offered during the grade 8 school year. A consent form, HPV-related educational materials and a translation sheet are then provided to students/guardians in the fall. All grade 8 females continue to receive an educational session (reviewed annually) just prior to immunization, emphasizing the known benefits and risks of HPV immunization as well as providing information on additional opportunities to receive their immunization at subsequent clinics.

Uptake of the HPV vaccine (at least one dose) increased by 30% between 2007/08 and 2009/2010.



3.4 Integration and Responsiveness Case Study 1: Tuberculosis / Human Immunodeficiency Virus “Think One, Test Both” initiative

The Infectious Diseases Control Division’s “Think One, Test Both” initiative focused on developing an education tool for primary health care providers in York Region to promote cross-testing of Human Immunodeficiency Virus (HIV) infection in Tuberculosis cases and Tuberculosis infection in HIV clients. This collaborative effort between the Sexually Transmitted Infections/Blood-borne Infections and the Tuberculosis Control teams afforded the opportunity for continued professional development through enhancement of skills in needs assessment and health promotion.

HIV-Tuberculosis co-infection has been identified as an emerging global public health issue. HIV-infected persons have a compromised ability to fight bacterial infections such as Tuberculosis because the illness affects immune system integrity.¹³ Among Tuberculosis-infected persons, HIV infection is known to be a strong predictor of progression from infection to Tuberculosis disease. This issue has become increasingly challenging in Canadian jurisdictions, particularly in areas with a large proportion of immigrants from HIV and Tuberculosis endemic countries. Anecdotal reports have identified a lack of cross-testing among health care providers in York Region and the surrounding area. The level of Tuberculosis -HIV co-infection in Canada is uncertain, with estimates ranging from 1.6% to 19%.¹⁴ Between 1998 and 2007, two Tuberculosis cases were reported with HIV co-infection in York Region. This number is likely an underestimate due to underreporting of HIV status among Tuberculosis cases and inconsistent testing for both diseases.

An environmental scan was conducted to identify reasons for lack of cross-testing among health care providers. Nursing staff from established Tuberculosis clinics at Toronto Western Hospital, Hospital for Sick Children, St. Michael’s Hospital and West Park Hospital were asked to provide insight on the issue. Discussions with these stakeholders revealed that:

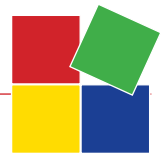
- Some health care providers tend to avoid discussing two diagnoses at the same time because too much information may be overwhelming to the patient.
- Some health care providers limit the amount of information discussed during a visit since language barriers may limit the degree of patient comprehension.
- The amount of paperwork and follow-up involved with HIV testing may act as a deterrent.
- Some health care providers may not consider older clients as persons at risk of HIV infection.
- Some health care providers are uncomfortable discussing the issue with their clients due to the stigma associated with HIV infection.

These findings underscored the need for an educational resource geared towards increasing awareness of the HIV-Tuberculosis co-infection issue and the importance of cross-testing.

This process led to the development of the “Think One, Test Both” Tuberculosis skin test ruler. It can be used to interpret Tuberculosis skin test results and acts as a reminder to health care providers to test for both infections. Implementation coincided with World HIV Day (December 1, 2008), and the initiative was profiled in the Doc Talks newsletter for local primary care physicians. The tool was distributed to primary health care providers in York Region who had ordered influenza vaccine for the 2008/09 influenza season. Health care providers who had recently ordered TB skin test solution were identified as the primary target group, as they were most likely to integrate this tool into their practice when reading Tuberculosis skin test results. Follow-up contact has been established with this group to ensure receipt of the tool and provide further education as required.

Since initial implementation, Infectious Diseases Control Division staff members have been involved in several initiatives to increase awareness and use of the “Think One, Test Both” Tuberculosis skin test ruler among key stakeholders. Within the HIV/AIDS community, the Sexually Transmitted Infections/Blood-borne Infections team has engaged primary care practitioners, STI-related networks, community groups (e.g., AIDS Committee of York Region) and peer health units. More recently, the “Think One, Test Both” Tuberculosis skin test ruler was featured provincially at the 2010 *Opening Doors Conference*, and federally at the 6th *Canadian HIV/AIDS Skills Building Symposium*. The Tuberculosis Control team has introduced the tool and reinforced messaging regarding testing for TB-HIV co-infection through media campaigns, and conference presentations involving the Ontario Lung Association and the International Union against Tuberculosis and Lung Disease.

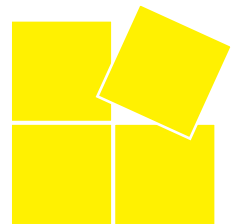




4.1 Divisional programs
and services

4.2 Key activity tables

4.3 Community Engagement Case
Study 2



4.4 Integration and Responsiveness
Case Study 2



4.1 Divisional programs and services

The Child and Family Health Division works to help individuals and families to experience a healthy pregnancy, prepare for parenthood and have the healthiest newborns possible, and to enable all children to attain and sustain optimal health and developmental potential. Child and Family Health programs and services include:

- One-to-one screening and assessment for Healthy Babies, Healthy Children Program
- Home visiting services for families with children (prenatal to six years of age)
- Assessment and intervention for breastfeeding program clinic services
- Baby-Friendly Initiative accreditation process
- Dental screening and assessment for the Children in Need of Treatment Program and preventive oral health services
- Liaison and follow up with families in relation to the Children in Need of Treatment Program
- Dental hygiene services (for 0-17 year-olds) in York Region Public Health dental clinics
- Oral health education
- Delivery of prenatal and parenting education sessions
- Provision of telephone information, support and referrals to community services for families with children prenatal to six years of age
- Capacity building activities for community partners and divisional staff related to reproductive health, breastfeeding and perinatal mood disorder, and parenting programming
- Liaising and service coordination with local hospitals, child welfare services and early intervention programs
- Leadership of coalition and networking groups related to child and family health
- Public awareness and promotional campaigns on a variety of topics related to child and family health

For the purpose of this scorecard, each division was asked to restrict indicator development and collection to three or four key activities within the division. Highlighted programs and services are featured in key activity tables.



4.2 Key activity tables

Table 8: Key Activity: Providing one-to-one screening and assessment for Healthy Babies, Healthy Children (target: parents and families with children 0–6 years)

INDICATOR TYPE	INDICATOR DESCRIPTION	2007	2008	2009
Level of Need/ Demand	Total number of York Region families serviced by the Healthy Babies, Healthy Children program*	9,956	9,884	9,764
Reach	Proportion of York Region families serviced by the Healthy Babies, Healthy Children program that were screened and assessed using a Larson prenatal screen, brief assessment, or in-depth assessment ⁱ	63%	69%	71%
Level of Service	Total number of screening and assessments completed per full time equivalent**	298	312	309
Effectiveness	Proportion of Parkyn postpartum screens received that result in postpartum contact ^j	98%	99%	97%
	Proportion of York Region families serviced by the Healthy Babies, Healthy Children program that received in-depth assessment ^j	4%	4%	3%
	Proportion of pregnant women screened using a Larson per year ^j	4%	6%	14%
Health Status	Low birth weight (500–2,499 grams) rate for singleton hospital births ^b	YR: 42.2 per 1,000	YR: 47.5 per 1,000	YR: 47.8 per 1,000
		ON: 47.9 per 1,000	ON: 47.9 per 1,000	ON: 47.9 per 1,000

^bHospital Inpatient Discharges, ^jIntegrated Services for Children Information System (ISCIS)

* Includes York Region families who received a face to face interaction, telephone call or voice mail message from the Healthy Babies, Healthy Children program.

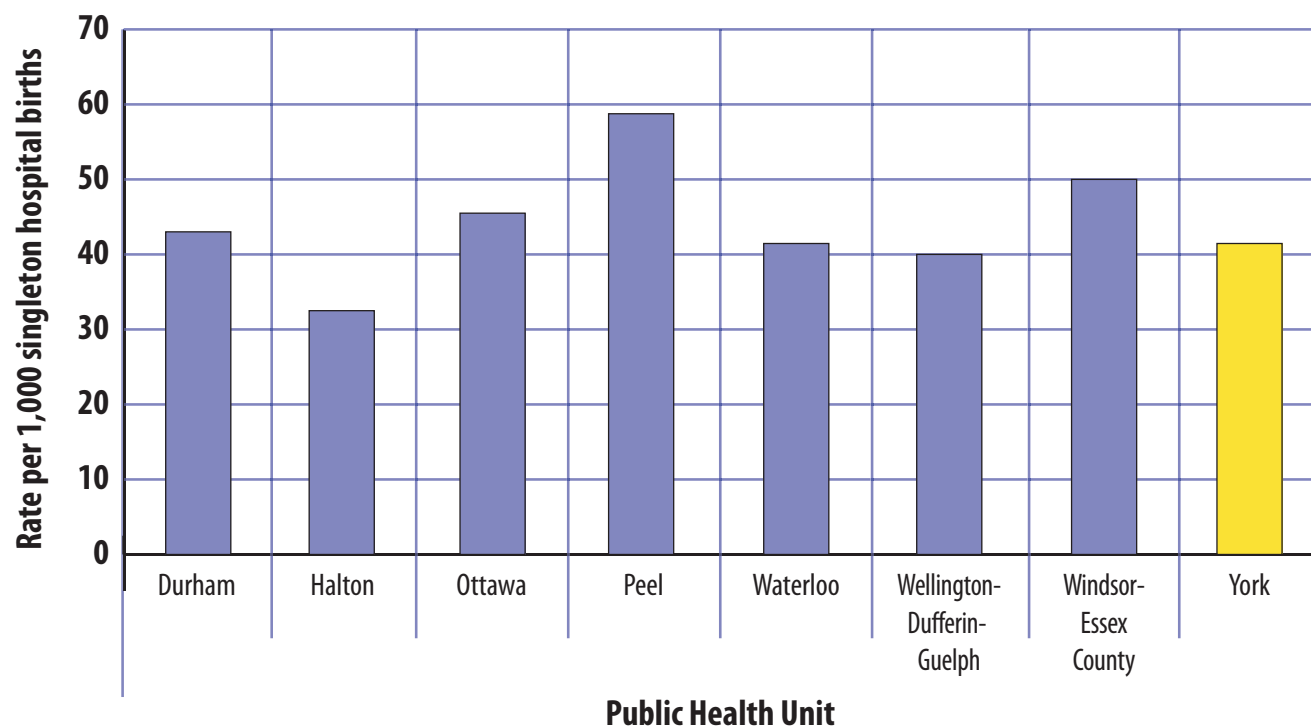
** The Child and Family Health Division's full time equivalent measurement is based on staff involvement in this activity. It is not based on a standardized calculation, but accounts for adjustments such as maternity leaves, sick leaves and project assignments.

KEY TRENDS:

- Between 2007 and 2009, the proportion of York Region families that were screened and assessed increased from 63 to 71%. This was primarily due to a prenatal service partnership with hospitals that increased use of the Larson prenatal screen to identify families with risk factors that may delay a child's development.
- A temporary change to a telephone service delivery model because of H1N1 in the fall of 2009 contributed to a slight decline in the proportion of families that received postpartum contact or in-depth assessments in 2009.



Figure 3: Low birth weight (500–2,499 grams) rate for singleton hospital births, York Region Public Health and peer public health units, 2007¹⁵



The Healthy Babies, Healthy Children program is a prevention and early intervention initiative funded by the Ministry of Children and Youth Services. Through one-to-one screening and assessment, the Healthy Babies, Healthy Children program identifies families who may benefit from additional supports, services and/or referrals to community programs.

Screening and assessment can take place face-to-face or by telephone, and can occur prenatally, in the postpartum period from birth to six weeks, and during early childhood (any time up to six years of age). **The Larson prenatal screen, the Parkyn postpartum screen, the brief assessment tool and the in-depth assessment tool** are all used. The brief assessment tool is delivered as part of a nursing assessment which assesses a baby or child's health, the mother's physical and mental health, the stresses on the family and the level of social support available to the family.¹⁶ It is used to determine who would benefit from an in-depth assessment, a detailed interview that identifies families "at high risk," identifies the family's strengths and risks, and determines which services and supports that they might need.¹⁷

An increase in the percentage of women screened using a Larson prenatal screen from 2007 to 2009 is linked to a prenatal service partnership between the Child and Family Health Division of the Public Health Branch and the three York Region hospitals. Larson screens are now included in hospital registration packages for prenatal clients. They are also being completed with clients at Southlake Regional Health Centre's prenatal clinic for women without a family physician or whose family physician does not provide prenatal care. The increase in screening may also be linked to the distribution of Larson screens at community events and at all York Region Public Health Branch prenatal classes, and to better public awareness of the Larson screen as a result of communications from the York Region Reproductive Health Network.

In the fall of 2009, service delivery was temporarily modified as a result of Public Health Branch H1N1 response activities. Client support for the Healthy Babies, Health Children program was provided by telephone, and the proportion of families that received postpartum contact and in-depth assessment dropped slightly.



Table 9: Key Activity: Providing assessment and intervention for breastfeeding program clinic services
(target: parents and families with children 0–6 years)

INDICATOR TYPE	INDICATOR DESCRIPTION	2007	2008	2009
Level of Need/ Demand	Total number of hospital births annually ^b	10,838	10,741	10,741*
Reach	Proportion of new mothers seen in breastfeeding clinic per year	8%	8%	7%
Level of Service	Total number of breastfeeding mothers seen in clinic per year per full time equivalent**	235	245	259
Effectiveness	Percentage of mothers who attended the breastfeeding clinic who reported they learned new information ⁱ	No data available	No data available	95%
Health Status	Proportion of mothers in York Region (18–49 years) who breastfed their last baby (born within the last five years) for at least six months ^d	57% (95% confidence interval 45–68)	60% (95% confidence interval 47–71)	63% (95% confidence interval 52–73)
	Proportion of mothers in York Region (15–55 years) who breastfed their last baby (born within the last five years) for at least six months ^g	YR (2003, 2005, 2007 combined): 54% ON (2003, 2005, 2007 combined): 50%		

^bHospital Inpatient Discharges, ^dRapid Risk Factor Surveillance System (RRFSS), ^gCanadian Community Health Survey (CCHS), ⁱYork Region Health Services Breastfeeding Clinic Client Satisfaction Survey

* 2009 data is not available; therefore 2008 number has been used.

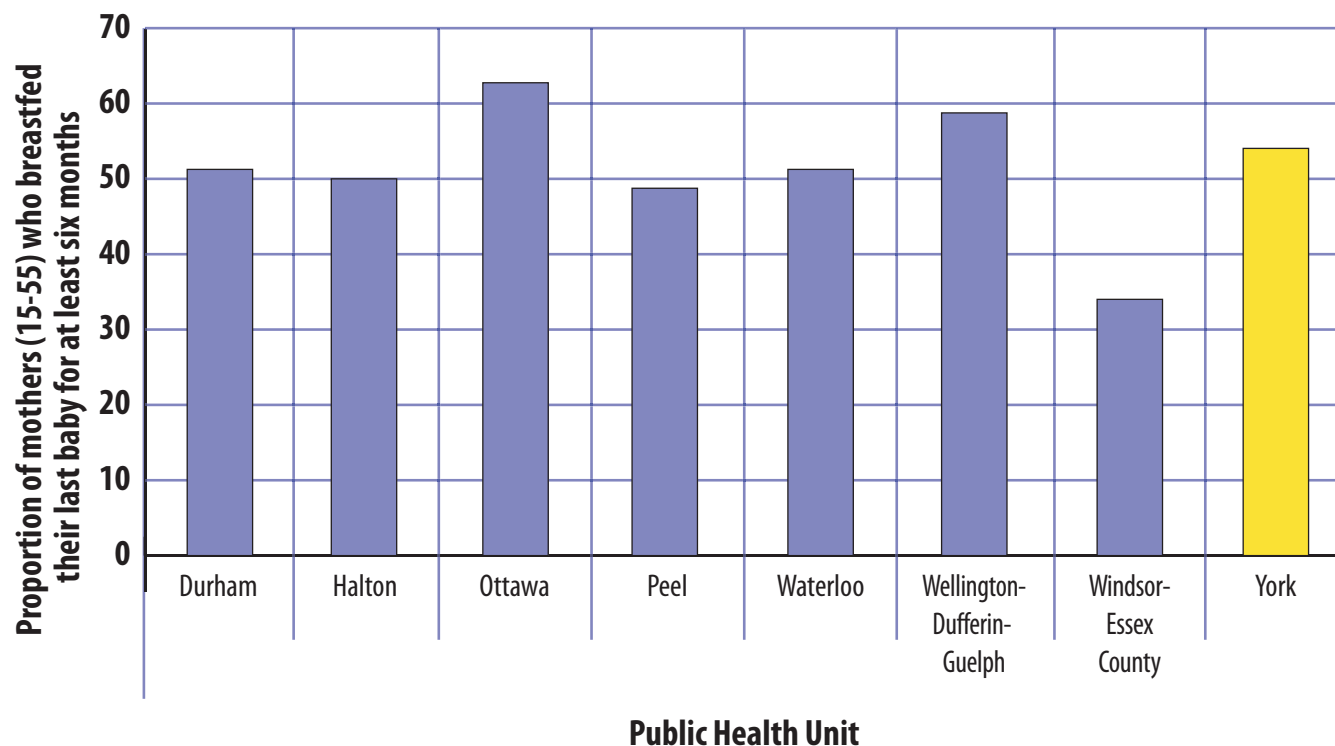
** The Child and Family Health Division's full time equivalent measurement is based on staff involvement in this activity. It is not based on a standardized calculation, but accounts for adjustments such as maternity leaves, sick leaves and project assignments.

KEY TRENDS:

- Between 2007 and 2009, the proportion of mothers in York Region who breastfed their last baby for at least six months remained relatively stable.
- Between 2007 and 2009, the total number of mothers seen in clinic per full time equivalent staff increased despite a reduction in staffing. This was achieved by offering less repeat visits in 2009 and lengthening the interval between repeat visits to accommodate new clients.



Figure 4: Proportion of mothers (15-55 years) who breastfed their last baby (born within the last five years) for at least six months, York Region Public Health and peer public health units, 2003, 2005, 2007 combined ¹⁸



Breastfeeding program clinic services include assessment of breastfeeding families with appropriate recommendations, referrals and follow-up when indicated. Services are provided in one-to-one interactions with clients in need of breastfeeding support related to low milk supply, sore nipples, slow infant weight gain, ineffective milk transfer or specific feeding issues.

Of the babies born to York Region mothers each year, 7 to 8% are seen in the breastfeeding clinic for at least one visit, and about half of these families have more than one visit to the clinic to help them resolve their issues. There are more families interested in breastfeeding clinic appointments than can be met with current resources. It is not uncommon for clients to wait one to two weeks for an appointment, which can result in early weaning or unnecessary supplementation with breast-milk substitutes. The reach indicator accounts only for clients actually seen in clinic and does not include those who cancel prior to their first visit but have received one-to-one telephone assessment and health teaching. To provide a more accurate determination of reach for clinic services, the Child and Family Health Division is pursuing alternate data tracking systems.



In 2009, staffing levels to the breastfeeding clinics were decreased slightly to devote staff time to quality assurance and professional practice initiatives. In spite of this, the number of breastfeeding mothers seen per full time equivalent clinic staff increased slightly. This was achieved by prioritizing new clients through a reduction in the frequency of repeat visits, resulting in a lower average number of visits per client. Repeat visits can be an effective way to help clients establish and maintain exclusive breastfeeding. To use staff resources as efficiently and effectively as possible, new models of service delivery are being explored.

During the nine weeks of H1N1 redeployment there was a shift to an essential services model of service delivery, and two full time equivalent staff members were assigned to provide breastfeeding support to the community. There was a significant increase in telephone support during this period and clinic visits were offered only to clients with urgent issues.

In a 2009 survey of clients (n=60) attending the York Region Public Health breastfeeding clinics, 90% of mothers reported they felt more confident about breastfeeding their child and 95% reported they had learned new information after attending a clinic appointment. The long term impact of breastfeeding clinic services on the community can be measured by the length of time babies are breastfed as well as whether or not babies are exclusively breastfed in the first six months. A slightly higher proportion of York Region mothers breastfeed for at least six months than the overall provincial proportion. There is no **statistically significant** difference between the proportion of mothers in York Region (18-49 years) who breastfed their last baby (born within the last five years) for at least six months in 2007, 2008, and 2009. To improve measurement of this indicator York Region Public Health has initiated a larger, local survey to be administered at six weeks, six months and 12 months that will determine breastfeeding duration as well as exclusivity.



Table 10: Key Activity: Providing dental screening and assessment for the Children In Need of Treatment program and preventive oral health services (target: 2007 and 2008--children 0-13 years; 2009—children 0-17 years)

INDICATOR TYPE	INDICATOR DESCRIPTION	2007	2008	2009
Level of Need/ Demand	Total number of children eligible for screening ^c	Children aged 0-13 years 169,183	Children aged 0-13 years 171,535	Children aged 0-17 years 230,957
Reach	Proportion of children screened ^f	41%	32%	22%
Level of Service	Total number of screenings provided per full time equivalent [*]	3,890	3,001	2,821
Effectiveness	Proportion of children identified as having urgent dental needs who receive treatment ^{e,f,**}	97%	97%***	100%
Health Status	Proportion of children with preventive dental needs ^m	12%	16%	17%
	Proportion of children with urgent dental needs ^m	4%	4%	5%

^cPopulation Estimates, ^eDental Indices Survey 2007-2008 (DIS), ^fDental Screening, ^mYork Region Community and Health Services Dental Program Internal Tracking System

* Level of Service: The Child and Family Health Division's full time equivalent measurement is based on staff involvement in this activity. It is not based on a standardized calculation, but accounts for adjustments such as maternity leaves, sick leaves and project assignments.

** The cycle between identification of an urgent case and completion of treatment can extend from one calendar year to the next.

*** Data is from January 1, 2008 to October 7, 2008. The migration of information into the Oral Health Information Support System, a new web-based application, appears to have caused flaws in the remaining reports for 2008.

KEY TRENDS:

- The total number of children eligible for screening increased significantly from 171,535 in 2008 to 230,957 in 2009 due to an expansion of the Children In Need of Treatment program to include youth up until their 18th birthday. The proportion reached dropped concomitantly, from 41% in 2007 to 22% in 2009.
- The total number of screenings conducted per full time equivalent staff decreased between 2007 and 2009. This was due to a number of factors: reduced frequency of screening conducted on school populations deemed to be at lower risk, discontinuance of non-mandated screening in child care centres, internal program realignment in 2008, devotion of staff time to planning and promoting the expanded clinic-based program for youth (14-17) rather than school-based screening program, and staff redeployment to H1N1 response in 2009.



Public Health Branch Registered Dental Hygienists conduct dental screening (a visual inspection of the mouth) in elementary schools throughout York Region as mandated by the Ontario Public Health Standards. If children require preventive oral health services but not treatment and meet eligibility criteria, preventive services are provided in Public Health Dental Clinics. If children require urgent or essential dental treatment, referrals are made to dentists in the community who provide treatment for the Children in Need of Treatment (CINOT) program on a fee-for-service basis.

The CINOT program is a dental program for the treatment of **urgent dental conditions**, based on family financial eligibility, which is funded by the Ministry of Health Promotion and York Region. It is managed and administered by the York Region Public Health Dental Program, and Public Health Branch dental staff follow up to ensure children have received dental care. Until 2008, children were eligible for CINOT until their 14th birthday or grade 8, whichever came later. In 2009, the Ministry of Health Promotion and Long-Term Care expanded the CINOT Program to include children up to their 18th birthday.

Dental screening is performed annually in elementary schools throughout York Region. Screening for the 14-17 age group is provided at York Region Community Dental Clinics. Due to the expansion of CINOT in 2009, the total number of children eligible for screening increased, resulting in a drop in the proportion of children reached.

A variety of factors have contributed to a decline in the total number of screenings conducted by York Region Public Health over the past two years. Up to and including 2007, dental screenings were provided in child care centres upon request, but this non-mandated activity was discontinued in 2008. This resulted in a decrease in the number of preschool children screened. A change in management resulting in program reorganization and temporary service disruption also affected the level of service provided in 2008.

In 2009, the provision of elementary school dental screening based on intensity levels defined in the new provincial Oral Health Assessment and Surveillance Protocol caused a drop in the number of children screened compared to previous years. In previous years universal screening was provided to junior kindergarten, senior kindergarten, and grades 2,4,6 and 8 for all elementary schools. Beginning with the 2009/10 school year, only schools identified as high screening intensity received dental screening for junior kindergarten, senior kindergarten, and grades 2,4,6 and 8. Medium screening intensity schools received screening for junior kindergarten, senior kindergarten, and grades 2 and 8. Low intensity schools had dental screenings for junior kindergarten, senior kindergarten and grade 2.

Finally, during the public health H1N1 response in the fall of 2009, discontinuation of school screening also played a part in the decrease in the number of children screened.

Due to the length of time it takes to complete treatment once an urgent case is identified, there are usually open cases at year end, which are only counted as closed the following year. It is currently not possible to calculate the number of urgent cases opened and closed within the calendar year.

**Table 11:** Key Activity: Delivering prenatal and parenting education sessions for Reproductive Health and Child Health programs (target: prenatal parents, parents, caregivers and families with children 0–6 years)

INDICATOR TYPE	INDICATOR DESCRIPTION	2007	2008	2009
Level of Need/ Demand	Total number of hospital births annually ^b	10,838	10,741	10,741*
Reach	Proportion of new families that participate in Reproductive Health and Child Health education sessions	31%	21%	22%
Level of Service	Total number of participants who complete a prenatal or parenting education session per full time equivalent**	222	165	163
Effectiveness	Retention rate for C&FH registered education sessions***	85%	67%	53%
	Average number of attendees attending one-time or drop in education sessions****	9	8%	11%
Health Status	Percent of recent and expecting mothers (18 to 49 years of age) who took folic acid supplementation prior to becoming pregnant ^d	63%	75%	65%

^bHospital Inpatient Discharges, ^dRapid Risk Factor Surveillance System (RRFSS)

* 2009 data is not available; therefore the 2008 number has been used.

** The Child and Family Health Division's full time equivalent measurement is based on staff involvement in this activity. It is not based on a standardized calculation, but accounts for adjustments such as maternity leaves, sick leaves and project assignments.

*** English language "Just for You and Your Baby" 8-week series of classes are included in count of registered education sessions in 2007 and 2008, but were subsequently discontinued and therefore are not included in 2009 number.

**** 2009 education sessions include new one-time parenting workshops not offered in previous years.



KEY TRENDS:

- A decrease in the proportion of families participating in education sessions in 2008 was due to a decrease in the number of classes offered as program resources were temporarily reallocated to review and revise processes and curriculum.
- Between 2007 and 2009, there was a decrease in the number of participants who completed the full series of prenatal or parenting education sessions they had registered for per full time staff equivalent. This reflects a change in service delivery away from offering a series of sessions requiring pre-registration and a move towards providing more one-off or drop-in sessions. This change was a direct result of client needs assessment and preferences. The average number of attendees at one-time or drop-in sessions increased from nine to 11 between those years.
- The apparent decrease in retention rate may reflect unreliable data capture, which will be improved once the program moves to online registration in the future.

Reproductive Health and Child Health programs include prenatal classes for women and partners, prenatal classes for at-risk mothers, prenatal nutrition programs, and a variety of parenting support and education sessions, including programs for young, single, socially or culturally isolated families and perinatal mood disorder groups. The level of need or demand for this activity is measured by the total number of hospital births annually. It is an underestimation of the number of York Region prenatal and postnatal clients, parents, caregivers and families with children 0-6 years, but currently there is no other data source available to measure this target population.

A decrease in the proportion of families participating in education sessions in 2008 was due to a decrease in the number of classes offered because program resources were temporarily reallocated to review and revise processes and curriculum. Based on the results of client satisfaction surveys and needs assessments, in 2009 some registered sessions were discontinued and new drop-in programs were offered.

Retention rates for educational series may be influenced by many factors such as transportation, travel or moving of households, illness in immediate family, child care, clients who determine after initial attendance that the group is not appropriate for them or does not meet their current needs, and clients who return to work during a series. For prenatal groups, the early birth of an infant or pregnancy complications requiring bed rest also impact retention rates. The apparent decrease in retention rates from 85% in 2007 to 53% in 2009 may reflect unreliable data capture in the current manual system. This will likely improve once the program moves to online registration in the future.

All Child and Family Health education sessions with the exception of the Transition to Parenting program for families experiencing challenges such as perinatal mood disorders were suspended from October 2009 until February 2010 due to H1N1 redeployment. This directly impacted service delivery.



4.3 Community Engagement Case Study 2: Nobody's Perfect parenting project

Nobody's Perfect is an evidence-based parenting program that was implemented in York Region in 1992 to increase positive parenting practices and to support young, single, socially or culturally isolated families. A Nobody's Perfect program series consists of eight sessions. Initially, each series was facilitated by two public health nurses, but in 2006, a decision was made to have each series co-facilitated by a public health nurse and a community partner to increase reach and to sustain the program.

In January 2008, a Nobody's Perfect Supervisor Network was formed and chaired by the Child Health program manager and lead public health nurse. The purpose of the initial meeting was to obtain input from community partners on how to enhance parenting capacity in York Region given limited staffing resources to meet the needs of the population. The community partners proposed moving the facilitation of Nobody's Perfect to community agencies, with support from York Region Public Health. This model was consistent with findings of the York Region Parenting Needs Assessment (2007), which showed that Ontario Early Years Centres were among the preferred locations to receive parenting information and that availability of child care and program cost were factors that affected program participation. The Nobody's Perfect Supervisor Network developed a strategy, and Ontario Early Years Centres, Rose of Sharon, Centre for Information and Community Services, and the Cross-Cultural Community Services Association began offering Nobody's Perfect twice annually at their sites.

In 2008, community partners were trained by Child Health public health nurses during a four-day facilitator workshop to meet the criteria for facilitation set by the Nobody's Perfect governing body, Ontario North for the Children. To support the community partners, a needs assessment was conducted to determine the resources and learning needs required to offer the program in the community. In response to community partner feedback and the results of the Parenting Needs Assessment Report, public health nurses developed a toolkit that included lesson plans and interactive resources. Education on a topic specific to the program is provided at coalition meetings. Further facilitator training was offered by Child Health public health nurses to community partners in the fall of 2008. Outreach was also provided to other community partners including Healthy Babies, Healthy Children. In 2009, Healthy Babies, Healthy Children Family Visitors were trained to facilitate Nobody's Perfect one-to-one for high-risk clients in the home.

With limited staffing resources in 2007, four Nobody's Perfect programs were offered, reaching 43 participants. In 2008, with the gradual move of Nobody's Perfect to community partners, the number of programs increased to seven, with 48 participants. In 2009, the programs offered in the community increased to 12 with 129 participants, and 10 one-to-one programs were offered by family visitors. Attendance at the Nobody's Perfect Coalition meetings increased from four in 2007 to 19 in 2009. Fifteen new community partners were trained as Nobody's Perfect facilitators in 2008. In 2009, 14 family visitors in the Healthy Babies, Healthy Children program were trained.

In 2009, Peel and Halton public health units expressed interest in the successful move of Nobody's Perfect program facilitation to community partners and visited the York Region Public Health Branch to review the program logic model and resources.

The Child Health team will continue to build sustainability of the Nobody's Perfect program by offering regular facilitator training, chairing the Supervisor Network meetings, and continuing the Nobody's Perfect Facilitator Coalition with education components. Further development of the toolkit will continue and ongoing support to community partners and family visitors will be provided. Continued support of community partners will further increase the number of partners offering this program, in turn increasing the number of parents that participate in the Nobody's Perfect parenting program.



4.4 Integration and Responsiveness Case Study 2: Prenatal Initiative Project

The Child and Family Health Division's Prenatal Initiative Project (PIP) team was formed to establish strategies to improve healthy birth outcomes and parenting capacity in York Region. The project is designed to integrate and coordinate programs and services to reach the target population earlier (i.e. in the prenatal period) through a comprehensive health promotion approach. Another key component of the project is to collaborate with key community partners to ensure that program plans are aligned toward achieving sustainable community development.

One of the objectives of the Prenatal Initiative Project team is to enhance universal prenatal screening using the Larson Screen. The Larson Screen is a self-administered universal prenatal screening tool designed to identify factors associated with parenting difficulties and problems with child development. It is a way to identify families who may be at risk and who may benefit from additional services by providing information, counselling, referrals, community links or support from the Healthy Babies, Healthy Children home visiting program. A key strategy to meet this objective has been to establish a prenatal service partnership with the three York Region hospitals to conduct universal prenatal screening. Hospitals include the Larson Screen in their hospital prenatal registration packages and use the Larson Screen at their clinics and programs.

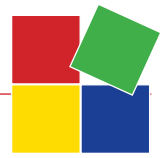
A literature review was completed to evaluate best practice guidelines for serving clients as well as alternative service delivery methods and strategies to increase healthy birth outcomes and parenting readiness. An environmental scan was conducted of six neighbouring health units to explore the use and effectiveness of the Larson Screen and to see how other health units are accessing and serving prenatal clients in their community.

Other strategies used to promote the Larson Screen include information sessions for Public Health Branch staff, an information bulletin to obstetricians and midwives, an article in DocTalks (a York Region Community and Health Services publication for primary care physicians), and distribution of Larson Screens at five community prenatal events. In addition, the Prenatal Initiative Project team and the York Region Reproductive Health Coalition have discussed universal screening and other ways to enhance services to prenatal clients in the community. As a result of the strategies implemented, the percentage of pregnant women screened using a Larson increased by 6% from 2007 to 2008 and by 14% from 2008-2009.

The Prenatal Initiative Project team completed a staff needs assessment which is guiding the development of specific roles and responsibilities for staff working with the prenatal population. The project team has collaborated with the Prenatal Curriculum Project team to ensure consistency of key messages and best practices to support staff in providing enhanced services to prenatal families in York Region.

As the project comes to an end, a recommendation report is being developed to propose priority areas for Child and Family Health Division implementation. As well, a summary of outcomes achieved by the Prenatal Initiative Project team will be highlighted. This comprehensive report will provide guidance and ensure sustainability of initiatives.



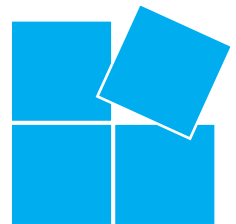


5.1 Divisional programs and services

5.2 Key activity tables

5.3 Community Engagement Case Study 3

5.4 Integration and Responsiveness Case Study 3





5.1 Divisional programs and services

The Health Protection Division works to protect the health of York Region residents through investigation and enforcement activities as well as education and promotion programs. Services provided by the Health Protection Division include:

- Food premise inspections
 - Special event and farmers market inspections
 - Food recall response
 - Food premises disclosure system
 - Provision of formal food handler training course (PROTON) and issuing of certificates
- Personal services setting inspections
- Public pool and spa inspections
 - Wading pool and splash pad inspections
 - Bathing beach monitoring/sampling
 - Response to adverse water quality results (private and public systems)
 - Small drinking water systems inspections
 - Rabies control and investigations
 - Vector-borne disease control and investigations
- Tobacco vendor inspections
 - Enforcement of the *Smoke-Free Ontario Act*
 - Child care centre and long-term care home inspections, focusing on infection prevention and control and food safety
 - Infection prevention and control consultations
 - Outbreak response
 - Health hazard prevention and management investigations/inspections (incl. seasonal farm workers' housing inspections)
 - Complaint investigations
 - Education, promotion, consultation and training in all programs
 - Health Connection/Health Protection telephone line

For the purpose of this scorecard, each division was asked to restrict indicator development and collection to three or four key activities within the division. Highlighted programs and services are featured in key activity tables.



5.2 Key activity tables

Table 12: Key Activity: Providing public health inspections to all food premises (target: food premises)

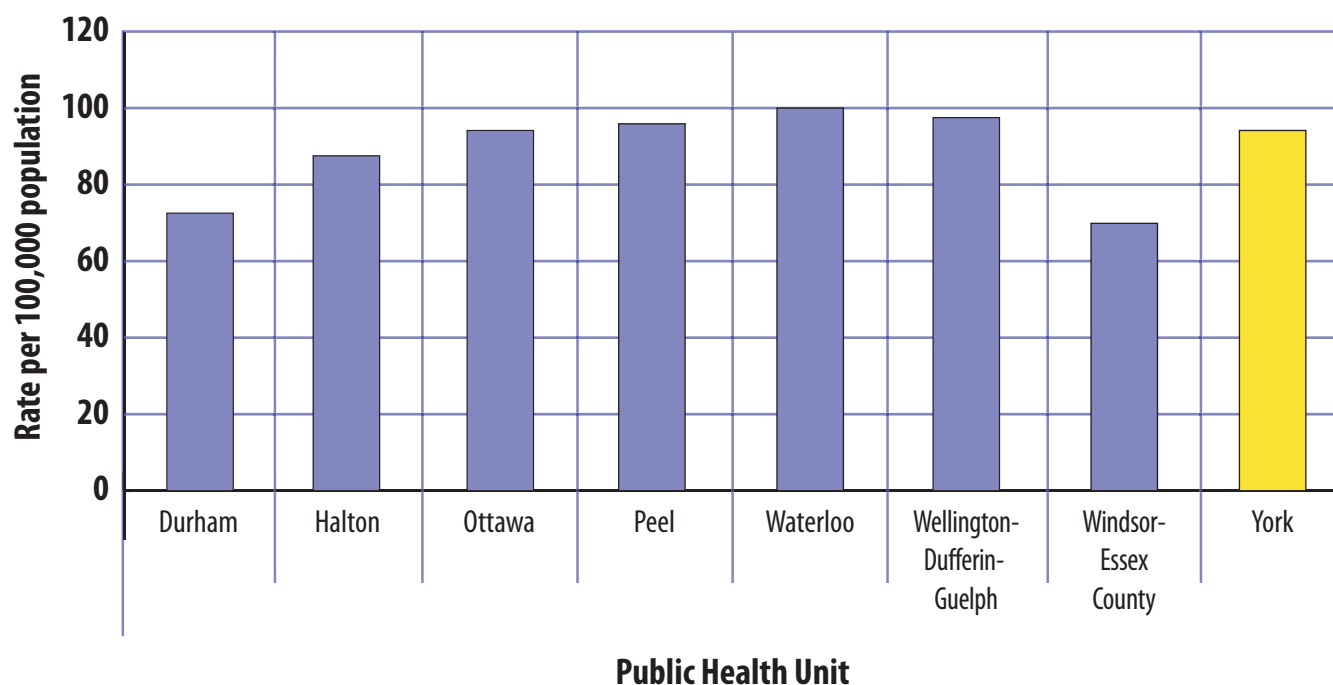
INDICATOR TYPE	INDICATOR DESCRIPTION	2007	2008	2009
Level of Need/ Demand	Total number of required food premise inspections in York Region			
	High risk	5,946	3,606	3,090
	Medium risk	4,632	5,576	4,756
	Low risk	3,177	3,395	2,528
	Total	13,755	12,577	10,390
Reach	Proportion of total required food premise inspections conducted per year			
	High risk (3x/year)	89%	87%	97%
	Medium risk (2x/year)	91%	89%	83%
	Low risk (1x/year)	82%	88%	76%
	Overall	88%	88%	85%
Level of Service	Number of food premise inspections and re-inspections conducted per allocated staff*	599	547	434
Effectiveness	Proportion of food premise inspections that require a re-inspection	19%	18%	19%
Health Status	Enteric illness incidence rate (Age standardized) ^{a,c}	YR: 94.4 per 100,000	YR: 80.5 per 100,000	YR: 77.4 per 100,000
		ON: 88.7 per 100,000		

^aIntegrated Public Health Information System (iPHIS), ^cPopulation Estimates

* Staff time is also devoted to additional activities. These activities include complaint investigations, food recall response, special event and farmers market inspections, food safety education and training, as well as rabies and West Nile Virus investigations.

**KEY TRENDS:**

- From 2007 to 2009, the total number of required inspections decreased from 13,755 to 10,390. This was partly due to a change in the provincial risk assessment tool. Some higher risk premises were reclassified to lower risk, thereby reducing the number of annual inspections required for those premises.
- A change in business practice to inspect some low risk premises (e.g. cocktail bars, institutional serveries) in conjunction with adjoining medium or high risk premises also contributed to the decrease in the total number of inspections required by avoiding duplicate visits.
- These changes have allowed some resources to be reallocated to emerging health protection issues.

Figure 5: Enteric illness incidence rate, York Region Public Health and peer public health units, 2007¹⁹



The Health Protection Division's Food Safety Program ensures that York Region residents are consuming food in premises that comply with Ontario Regulation 562/90 (Food Premises) under the *Health Protection and Promotion Act*.

Public health inspectors inspect establishments that package, prepare, process and sell food to the public. Food premises that receive an inspection also receive a risk assessment to determine their status (**high risk, medium risk, or low risk**) in accordance with the Ministry of Health and Long-Term Care's Food Safety Protocol. A required food premise inspection is a mandatory inspection of a high, medium or low risk food premise, excluding **re-inspections** and complaints. Premises must be inspected one to three times per year according to their risk status. All high risk food premises were inspected at least once in 2007, 2008 and 2009, and most were inspected three times. A reduction in the proportion of inspections conducted in 2009 was a result of staff redeployment to H1N1 response activities. Essential staff that were not redeployed focused on high risk inspections.

From 2007 to 2009, the total number of required inspections decreased from 13,755 to 10,390. This was partly due to a change in the provincial risk assessment tool. This decreased the risk category assigned to some food premises, thereby reducing the number of annual inspections required for those premises. A change in business practice to inspect some low risk premises (e.g. cocktail bars, institutional serveries) in conjunction with adjoining medium or high risk premises also contributed to the decrease in the total number of inspections required. As a result of the decrease in the level of need, some resources were reallocated to other Health Protection programs.

The age standardized **enteric** illness incidence rate decreased by 14.7% (**statistically significant**) from 2007 to 2008, and by 3.9% (not statistically significant) from 2008 to 2009. The enteric illness incidence rate fluctuates annually due to a number of variables such as reporting rate, diagnosis, confirmed outbreaks due to enteric pathogens in water and food, and cases acquired during travel.



Table 13: Key Activity: Inspecting personal services settings (target: personal services settings such as tattoo parlours, nail salons, hair salons and body piercing salons)

INDICATOR TYPE	INDICATOR DESCRIPTION	2007	2008	2009
Level of Need/ Demand	Total number of required inspections of personal services settings in York Region			
	High risk	247	228	232
	Low risk	2,254	2,685	2,669
	Total	2,501	2,913	2,901
Reach	Proportion of required inspections of personal services settings conducted			
	High risk (3x/year)	82%	78%	99.2%
	Low risk (1x/year)	72%	65%	67.1%
Level of Service	Number of personal services settings inspections and re-inspections conducted per allocated staff*	628	648	509
Effectiveness	Proportion of personal services settings inspections that require a re-inspection	4.3%	2.7%	2.4%
Health Status	Blood-borne infections incidence rate** (Age standardized) ^{a,c}	72.3 per 100,000	64.5 per 100,000	57 per 100,000

^aIntegrated Public Health Information System (iPHIS), ^cPopulation Estimates

* Staff time is also devoted to additional activities. These activities include outbreak and or single case investigations, complaint investigations, infection prevention and control consultation, staff and client education and training, health promotion along with enforcement activities such as the issuing Orders.

** This rate includes the following infections: Hepatitis B (chronic and acute), Hepatitis C, HIV/AIDS (HIV infected persons and AIDS cases).

KEY TRENDS:

- The number of inspections required increased by 16% between 2007 (2501) and 2008 (2913), largely as a result of the increased number of low risk personal service settings.
- In 2009, the Health Protection Division allocated more staff to inspect personal services settings to deal with growth in the area and new provincial guidelines for these settings.
- In 2009, the program focussed on reaching all high risk settings.



Personal services settings are premises that offer services where there is a risk of exposure to blood and body fluids such as, but not limited to, hairdressing and barbering, tattooing and body piercing, electrolysis, acupuncture and other various aesthetic services. Personal services settings are categorized as high or low risk. **High risk personal services settings** provide invasive procedures such as tattoo/micro-pigmentation services, body piercing, acupuncture and electrolysis, and pose a higher potential risk of blood-borne infections than low risk services.

Public health inspectors inspect personal services settings a minimum of once per year to ensure compliance with the Ministry of Health and Long-Term Care's Infection Prevention and Control in Personal Services Settings Protocol. Inspecting these premises reduces the risk of exposure to infectious diseases for both the public and the personal service worker.

In 2009, the Health Protection Division allocated more staff to inspect personal services settings to deal with growth in the area and new provincial guidelines for these settings. The number of inspections required grew mostly as a result of an increase in low risk premises in the Region. With the release of a new MOHLTC *"Infection Prevention and Control in Personal Service Settings Best Practice"* document, the focus of inspection efforts in 2009 was to initially reach all high risk personal services settings to ensure awareness and compliance with the requirements set out in this document. This resulted in a jump in the proportion of inspections of high risk premises conducted from 2008 (78%) to 2009 (99.2%). An increased compliance rate with the Ministry protocol has resulted in a decrease in the number of re-inspections required in personal services settings.

A 10.8% decrease (**statistically significant**) in the blood-borne infection incidence rate was observed from 2007 to 2008, and an 11.7% decrease (statistically significant) was seen between 2008 and 2009.


Table 14: Key Activity: Inspecting public pools and spas (target: public swimming pools and public spas)

INDICATOR TYPE	INDICATOR DESCRIPTION	2007	2008	2009
Level of Need/ Demand	Total number of required inspections for recreational water facilities in York Region			
	Pools	636	656	726
	Spas	115	121	462
	Total	751	777	1,188
Reach	Proportion of required inspections for recreational water facilities conducted			
	Pools	96%	97%	75%
	Spas	72%	100%	84%
	Total	96%	97%	78%
Level of Service	Total number of inspections and re-inspections for recreational water facilities conducted per allocated staff*	280	289	264.5
Effectiveness	Proportion of inspections conducted that result in a <i>Health Protection and Promotion Act</i> Section 13 order	2.4%	1.5%	4.2%
Health Status	Drowning death rate ^{k,c} (represents all drownings)	YR (2004): 0.7 per 100,000 ON (2004): 0.8 per 100,000 YR (2005): 0.7 per 100,000 ON (2005): 0.9 per 100,000		

^cPopulation Estimates, ^kMortality Data

* Staff time is also devoted to additional activities. These activities include investigations, complaints and education for public beaches, drinking water systems and unregulated recreational water facilities.

KEY TRENDS:

- The number of required inspections of recreational water facilities increased by over 50% from 2008 to 2009 because of new Ontario Public Health Standards requirements that increased the frequency of inspections of public spas.
- Because of Health Protection staff redeployment to H1N1 response activities, not all of these inspections were completed in 2009.



Staff from the Health Protection Division's Safe Water Program inspect **regulated recreational water facilities** (i.e., public swimming pools and **public spas**) to ensure they are operated in a safe and sanitary manner. Under Ontario Regulation 565/90 (Public Pools), public health inspectors conduct inspections of any recreational water facility where the general public is admitted, including those in community centres, YMCA facilities or recreational camps. Recreational water facilities in apartments or condominium buildings with more than five units, hotels, campgrounds, day nurseries, day camps or other facilities are also inspected to ensure compliance with the regulation. Public Spas are inspected to ensure compliance with Ontario Regulation 428/05 (Public Spas).

Public pools are inspected at least two times per year and no less than once every three months while they are operating. Prior to the new Ontario Public Health Standards, public spas were inspected at least once per year. As of the implementation of the standards on January 1, 2009, public spas are inspected at least two times per year and no less than once every three months while they are operating. This change resulted in an increase in the overall number of required inspections of recreational water facilities from 2008 to 2009.

Up until September 30, 2009, the Health Protection Division inspected all public pools and spas at the required frequency. Final inspections in the last quarter of the year were not all completed due to staff involvement in public health H1N1 response activities. This resulted in a 19% overall decline in the proportion of required inspections conducted and a decline in the program level of service compared to 2008.

Under Section 13 of the *Health Protection and Promotion Act*, a medical officer of health or a public health inspector may make an order to respond to a health hazard, to eliminate it or decrease its effect. The 2.7% increase in the proportion of inspections resulting in Section 13 orders was a result of the implementation of more stringent provincial criteria for closing recreational water facilities.


Table 15: Key Activity: Inspecting tobacco vendors (target: tobacco vendors)

INDICATOR TYPE	INDICATOR DESCRIPTION	2007	2008	2009
Level of Need/ Demand	Total required number of tobacco vendor inspections in York Region*	2,511	2,340	2,196
Reach	Proportion of required number of tobacco vendor inspections conducted	100%	100%	100%
Level of Service	Total number of tobacco vendor inspections conducted per allocated staff**	547	596	520
Effectiveness	Percentage of tobacco vendor inspections resulting in Smoke-Free Ontario Act charges	12%	4%	3.7%
	Percentage of tobacco vendors who sold to youth access test shoppers	11.3%	4.5%	6.5%
Health Status	Percent of adults 19 years of age and older who know the legal age limit on sale of tobacco ^d	41% (2006)		42%
	Percent of people aged 12-19 who are non-smokers ^d	YR: 93 (86-99) ON: 90 (89-92)	YR: 91 (84-97) ON: 91 (90-93)	Data not available

^dRapid Risk Factor Surveillance System (RRFSS), ^eCanadian Community Health Survey (CCHS)

* As defined under the *Smoke-Free Ontario Act*.

** Staff time is also devoted to additional activities. In addition to inspecting tobacco vendors, Tobacco Control Officers investigate complaints, provide education and ensure compliance with the *Smoke-Free Ontario Act* in workplaces, public places and specialized settings such as hospitals, long-term care facilities and school properties.

KEY TRENDS:

- The proportion of tobacco vendor inspections resulting in *Smoke-Free Ontario Act* charges decreased from 12% to 3.7% between 2007 and 2009, indicating an increased level of compliance among vendors as a result of education and enforcement.
- The Ministry of Health Promotion requested that additional inspections be carried out in 2008 to provide education and ensure compliance with the new tobacco display ban. Consequently, the number of vendor inspections per allocated staff increased from 547 in 2007 to 596 in 2008. Inspection numbers then returned to status quo in 2009.



The Health Protection Division's Tobacco Education and Control Team inspects tobacco vendor locations throughout York Region to enforce the *Smoke-Free Ontario Act*. The Act strengthens measures to ensure only those 19 years of age and older can buy tobacco products and restricts the display of tobacco products in retail establishments.

The total number of tobacco vendors in York Region fluctuates year to year as businesses open and close. The decrease between 2007 and 2008 was likely a result of the implementation of the second phase of the *Smoke-Free Ontario Act*, which involved a ban on the display of any tobacco products in retail locations. This prompted many vendors who did not rely on tobacco sales as a significant source of income (such as bars and restaurants) to stop selling tobacco products. A minimal decrease occurred in 2009 and is likely a result of a difficult economic climate in the retail sector and the continuing trend of vendors ceasing to sell tobacco when it is not a main staple of their sales.

All required tobacco vendor inspections were completed in 2007, 2008, and 2009. Redeployment of staff resources to H1N1 response activities in the fall of 2009 did not affect the proportion of inspections conducted because compliance inspections are routinely conducted earlier in the year with test shoppers.

To encourage a seamless and timely change in practice for vendors, the Ministry of Health Promotion requested that additional inspections be carried out in 2008 to provide education and ensure compliance with the new tobacco display ban. Consequently, the number of vendor inspections per allocated staff increased in 2008. Inspection numbers then returned to status quo in 2009.

Diligent education efforts and the use of test shoppers have contributed to an overall increase in vendor compliance. Vendor inspections resulting in charges continue to decline year over year, from 12% in 2007 to 3.7% in 2009. The number of tobacco vendors who sold to youth when tested has also decreased since 2007. A slightly sharper decrease in 2008 likely resulted from additional inspections being conducted for educational purposes concerning the display ban. These extra visits to retailers served to keep the laws governing tobacco display and sales in the forefront of proprietors' minds. Restricting youth access is a key function of the *Smoke-Free Ontario Act* and continues to be crucial part of the Tobacco Education and Control Team's focus in the community.



5.3 Community Engagement Case Study 3: Food Safety at Home communication strategy

Because home-cooked foods continue to be a source of food-borne illness in York Region, a Domestic Food Handlers Survey was implemented between November and December 2008. CCI Research Inc. administered the telephone survey to 400 York Region residents, who were asked 15 questions related to food safety, food preparation habits and preferred methods of communication for future food safety campaigns. The survey included questions on:

- Prior food poisoning experiences
- Food preparation methods and frequency of consumption of leftovers
- Barbecuing habits
- Confidence in preparing food safely
- Frequency of preparation of meals containing hazardous foods such as poultry, pork, or beef
- Methods of communication by which respondents would like to receive further information on safe food handling

The results of the survey are being used to develop a new health promotion campaign directed at domestic food handlers, and to adapt and tailor current food safety campaigns to meet the needs of York Region residents. Results of the survey will also help identify gaps in food safety knowledge and practices that are specific to communities in York Region. Communication strategies are being planned in four stages:

- 1) Community awareness of food poisoning.
- 2) Community awareness of food safety concepts.
- 3) Food safety knowledge and skills.
- 4) Attitude and behavioural information campaigns.

To determine the success of this social marketing and health promotion campaign, a module has been added to the Rapid Risk Factor Surveillance System (RRFSS), an ongoing telephone survey used to monitor trends in risk behaviours of importance to public health. A number of questions asked in the Domestic Food Handlers Survey are also asked within the RRFSS module to evaluate the long-term effectiveness of future communication campaigns.

Additional target group-specific evaluation activities took place in 2009 to inform community-focused campaigns in 2010 (Phase I) and 2011 (Phase II). Phase I of the communication strategy started in the fall of 2010 with a focus on women aged 25-45 (including pregnant women) who prepare food in the home. The initial focus is on increasing awareness of food-borne illness, with subsequent messaging aimed at changing food safety behaviours. Activities include an official campaign media launch, toolkit development for targeted community groups, media messaging and distribution of special promotional materials to promote the *Be Food Safe: Clean, Separate, Cook and Chill* methodology. Phase II planning is taking place in 2010 for the 2011 campaign, which will focus on knowledge and skills of food handlers, especially men who prepare food on the barbecue.



5.4 Integration and Responsiveness Case Study 3: 20/20 EcoSchools program

In light of clear and persuasive international evidence that the climate system is warming, with a range of implications for human health, the World Health Organization (WHO) calls for concerted action to develop mitigation strategies to enhance health now and reduce vulnerability to future climate change.^{20, 21} In addition, according to the WHO, many of the actions that are necessary to reduce greenhouse gas emissions can also bring very large public health benefits, for example through reduced air pollution.

The 20/20 EcoSchools Program is a social marketing campaign developed in response to emerging evidence on the impact of climate change and global warming. It raises the capacity of school boards to deliver messages relating to climate change through integration with the Ontario curriculum. The program, which aims to increase awareness of the impacts of everyday energy use and helps change behaviours to reduce energy use, aligns with both the York Region Sustainability Strategy and the Corporate Air Quality Strategy.

In York Region, the Public Health Branch's Health Protection Division works with school board science curriculum consultants to deliver the program. Support is provided to interested teachers through training for teachers and resources such as a teacher's guide, student planners, classroom posters, and a prize draw for a Clean Air Champion presentation and pizza lunch. Learning is extended into students' homes by inviting families to participate in practical activities to reduce energy use. The 20/20 Planner helps participants achieve the goal of reducing energy use by 20% at home and on the road.

Between 2007/08 and 2009/10 school years a total of 38 elementary schools, 101 classrooms and 2,820 students participated in the program from both the York Region District School Board and the York Catholic District School Board (Table 1). Based on a 2007 survey of families' self-reported activities, on average, families achieved a 25% reduction in home energy use (equal to 1.5 tonnes of greenhouse emission reductions per household) and a 19% reduction in vehicle kilometres travelled (equal to 1.1 tonnes of greenhouse gas emission reductions per household).

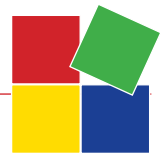
Table 16: Participation in the 20/20 EcoSchools program, 2007/08 to 2009/10 school years

SCHOOL YEAR*	NUMBER OF SCHOOLS	NUMBER OF CLASSES	NUMBER OF STUDENTS
2007/08	16	58	1,625
2008/09	9	14	391
2009/10	13	29	804

* School year begins in September and ends in June of the following year.

There was a higher participation rate in the 2007/08 school year in part because one entire school took part in the program (715 students, 26 classes). In 2008/09, as the program underwent a redesign, participation was lower. The new program was launched in January 2010.



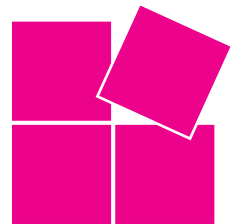


6.1 Divisional programs and services

6.2 Key activity tables

6.3 Community Engagement Case Study 4

6.4 Integration and Responsiveness Case Study 4





6.1 Divisional programs and services

The Healthy Lifestyles Division is a multidisciplinary team of public health practitioners who work to promote and protect the health of residents using a developmental asset approach and a resiliency focus to increase coping skills and lessen risk behaviours. Healthy Lifestyles programs and activities include:

- Promotion of and support for the adoption of comprehensive Healthy Schools programming (elementary)
- Promotion of and support for the adoption of comprehensive Healthy Schools programming (secondary)
- Promotion of and support for adoption of comprehensive workplace wellness programs
- Co-ordination of delivery of mandated health topics in workplaces
- Coordination of the planning, implementation and monitoring of the Food for Learning program
- Prenatal, infant, and preschool nutrition programming (Includes NutriSTEP screening and nutrition supports for child care providers)
- Nutrition in elementary and secondary schools (Includes Eat Smart! school cafeteria program)
- Eat Smart! workplace cafeteria program
- Public awareness and the capacity building activities for parents and caregivers to prevent injury among children 0-17 years
- Public awareness and capacity building activities to prevent injuries in children, adults, and seniors
- Healthy aging
- Promotion of breast, cervical, and colorectal cancer screening and prevention initiatives
- Capacity building for tobacco cessation
- Smoke-Free Ontario strategy programs
- Substance misuse prevention initiatives (Includes youth strategy and ethno-cultural outreach)
- Health Connection public health telephone information line
- Health emergency planning
- Epidemiology and research services
- Resource to the community on healthy living topics
- Promotion of safe and healthy environments
- Advocacy for healthy public policy
- Development of community partnerships for various healthy living initiatives
- Community collaborations and consultations for various healthy living initiatives
- Public awareness and education on a variety of healthy living topics, including sun safety, physical activity

For the purpose of this scorecard, each division was asked to restrict indicator development and collection to three or four key activities within the division. Highlighted programs and services are featured in key activity tables.



6.2 Key activity tables

Table 17: Key Activity: Promoting and supporting the adoption of comprehensive Healthy Schools programming (target: public, Catholic and private elementary schools in York Region)

INDICATOR TYPE	INDICATOR DESCRIPTION	2006/07 SCHOOL YEAR*	2007/08 SCHOOL YEAR*	2008/09 SCHOOL YEAR*
Level of Need/ Demand	Total number of elementary schools in York Region (public, Catholic and private)	294	304	296
Reach	Proportion of elementary schools participating in the York Region Healthy Schools Program	30.6%	32.6%	40.5%
Level of Service	Number of elementary schools participating in the York Region Healthy Schools Program per allocated staff**	10	8.25	10
Effectiveness	Proportion of elementary schools participating in the York Region Healthy Schools Program that sustain their stage or progress to the next stage of the program	Tool under development	Baseline data collection	76%
Health Status	Percentage of population 4-13 years of age who are physically active (highly active or moderately active)	No data available		
	Percentage of population 4-13 years of age with healthy body weight (BMI 18.5-24.9)	No data available		

* School year begins in September and ends in June of the following year.

** Staff time is also devoted to additional activities.

KEY TRENDS:

The proportion of elementary schools participating in and progressing through the Healthy Schools Program increased from 30.6% in the 2006/07 school year to 40.5% in the 2008/09 school year. This resulted in part from a program review in 2007 that included staff training, resource development and internal divisional re-alignment and from an increasing number of champions within schools and school boards.



The Healthy Lifestyles Elementary School Program team works towards building the capacity of elementary schools to plan, implement and evaluate health-promoting activities, environments and policies using the best practice Comprehensive School Health approach. Healthy Lifestyles staff provide consultation and resources to schools working towards completing the four steps of the York Region **Healthy Schools** Program: 1) forming a Healthy School committee, 2) identifying strengths and needs, 3) developing and carrying out a comprehensive action plan, and 4) evaluating and celebrating accomplishments. Participating schools progress through stages of implementation over time. As the Healthy School committee becomes more established, school staff, students, parents and community partners become more engaged and the action plan is synchronized with related local and provincial policies.

In January 2008, the Healthy Lifestyles Division underwent realignment. During the first half of 2008, the Elementary School Program focused on building internal program capacity to facilitate a comprehensive school health approach. This included training and resource development such as:

- Revising the Healthy Schools Toolkit and developing new pamphlets and presentations.
- Developing the Stages of Implementation tool in partnership with the York Region District School Board and York Catholic District School Board to measure the progress of schools in the Healthy Schools Program.
- Strengthening the partnership with the York Region District School Board.
- Implementing Healthy Schools Networks to allow Healthy School Committees to come together with school board and community partners to share ideas, resources and successes.

With staff time temporarily reallocated to internal program capacity building, the level of service indicator dropped slightly from 2007 to 2008. However, once the realignment was complete, the Elementary School Program's staff complement was augmented, and its reach and level of service were enhanced. In 2009, ongoing work with school board partners culminated in the development of the York Region District School Board Healthy Schools and Workplaces Policy. The number of participating Healthy Schools continued to increase, and the level of service returned to 2007 levels. The Healthy Schools Networks initiative expanded to include more schools, as well as support and resources from other public health programs.

There are currently no health status data available for elementary school-aged children. However, an Ontario Childhood Healthy Weights Surveillance System is being piloted by the Association of Local Public Health Agencies and the Ontario Agency for Health Protection and Promotion. This new surveillance system will provide relevant data in the future.



Table 18: Key Activity: Promoting and supporting the adoption of comprehensive workplace wellness programs (target: workplaces in York Region that employ 20 or more employees)

INDICATOR TYPE	INDICATOR DESCRIPTION	2007	2008	2009
Level of Need/ Demand	Total number of workplaces in York Region that employ 20 or more employees	4,014	4,162	4,185
Reach	Proportion of workplaces employing 20 or more employees that received consultations	1.4%	4.7%	7.7%
Level of Service	Number of consultations per allocated staff*	13	34	54
Effectiveness	Proportion of workplaces participating in the Workplace Wellness Program that sustain their stage or progress to the next stage of the program	Tool under development	Baseline data collection	79%
Health Status	Percentage of employed population 18-64 years of age who were physically active (high active or moderately active) ^d	81%	74%	81%
	Percentage of employed population 18-64 years of age with healthy body weight (BMI 18.5-24.9) ^d	50%	50%	47%

^dRapid Risk Factor Surveillance System (RRFSS)

* Staff time is also devoted to additional activities.

KEY TRENDS:

The reach out to workplaces increased between 2007 and 2009. This was facilitated by the development and application of a new resource that matches health promotion strategies to the various stages of organizational change and measures progress towards adoption of a comprehensive workplace wellness program.



The Workplace Wellness Program is mandated to increase the capacity of workplaces to develop and implement comprehensive health policies and programs, and to create supportive environments for healthy choices to reduce the risk for chronic disease. The program provides consultative services on planning, implementing and sustaining a comprehensive workplace wellness program.

An increase in the number of consultations provided to workplaces from 2007 to 2009 follows a program review in 2008 and reflects a commitment to promoting a comprehensive workplace health model as mandated in the 2008 Ontario Public Health Standards. As part of the program review, a resource tool based on change theory²² was developed to support workplaces through organizational change to promote workplace wellness. This model is based on the idea that organizations pass through a series of stages as they change. By recognizing these stages, strategies to promote change can be matched to various points in the process of change and progress towards implementing a comprehensive wellness program can be measured. Initial baseline data was obtained in 2008.

Given the vast number of workplaces in the Region, in addition to providing direct consultation, the program also uses a variety of population health and social marketing strategies to raise awareness about and promote workplace wellness such as: developing web-based resources, producing newsletters, sending regular e-messages, convening an annual Workplace Wellness Conference, and facilitating workplace networking sessions.



Table 19: Key Activity: Coordinating the planning, implementation and monitoring of the Food for Learning program (target: public and Catholic elementary schools in York Region)

INDICATOR TYPE	INDICATOR DESCRIPTION	2006/07 SCHOOL YEAR*	2007/08 SCHOOL YEAR*	2008/09 SCHOOL YEAR*
Level of Need/Demand	Total number of elementary schools in York Region (public and Catholic)	234	241	245
Reach	Proportion of elementary schools that participate in the Food for Learning Program	21.8%	24.9%	34.7%
Level of Service	Number of elementary schools that participate in the Food for Learning Program per allocated staff**	30	35	50
Effectiveness	Percentage increase of schools with a Food for Learning Program	Baseline data collection	18%	42%
Health Status	Percentage of elementary school-aged population 4-13 years of age who consume 5 or more servings of fruits or vegetables daily	No data available	No data available	No data available
	Cost of Nutritious Food Basket for a family of four***	n/a	n/a	\$166 (2009 cost calculation)

* School year begins in September and ends in June of following year.

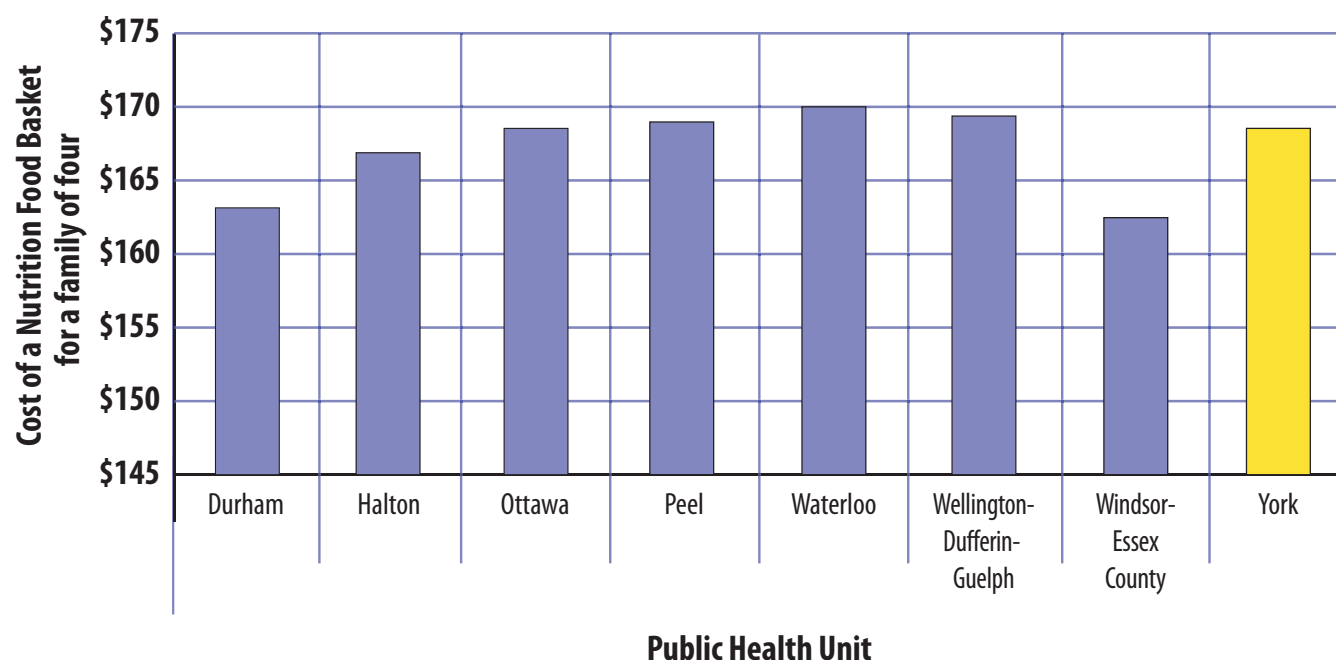
** Staff time is also devoted to additional activities.

*** The Nutritious Food Basket is a survey tool that is a measure of the cost of basic healthy eating based on current nutrition recommendations and average food purchasing patterns. Each board of health is responsible for conducting nutritious food basket costing within its health unit catchment area. In Ontario, a new protocol for nutritious food basket costing was released in 2009; therefore data from 2008 and earlier cannot be compared to data from 2009 and later.

KEY TRENDS:

The number of schools providing breakfast and/or snack programs through Food for Learning grew from 21.8% in the 2006/07 school year to 34.7% in the 2008/09 school year as a result of expanded provincial investment in student nutrition programs as well as growing public interest in student nutrition.

Figure 6: Cost of a Nutritious Food Basket for a family of four, York Region Public Health and peer public health units, 2009²³



Nutrition Services works with families, schools, workplaces and community partners to create and enhance supportive environments for healthy eating through policy development, environmental support, education, capacity building and skills enhancement activities.

Nutrition Services staff coordinate the planning, implementation and monitoring of the Food for Learning program. Food for Learning is a community partnership dedicated to initiating and supporting student nutrition programs to enhance classroom learning. Student nutrition programs, which provide meals and/or snacks in schools to ensure that children are well-nourished, rely extensively on volunteers for planning menus, buying groceries, preparing food, serving and/or delivering food to classrooms, cleaning up, and local fundraising.

The Food for Learning program depends on over 700 volunteers to deliver breakfast and snack programs in York Region schools. Nutrition Services staff provide consultations and opportunities for volunteer skill development in the areas of menu planning, budgeting and program logistics including keeping a focus on universal accessibility for all students. In addition, Nutrition Services arranges for training opportunities related to food safety, volunteer support and recognition, and fundraising. Nutrition Services staff also prepare funding proposals, distribute funds, report to funders, and promote the development of new breakfast and snack programs in elementary schools.

There was a 42% increase in the number of student nutrition programs supported by Food for Learning from 2008 to 2009, as a result of 25 schools initiating a new breakfast or snack program. Part of this increase resulted from provincial identification and funding of “designated schools” as part of the Ontario Poverty Reduction Strategy. The rest of the increase was due to interest from parents, teachers, school administration and the school boards. Although support from the school administration is key to the success of breakfast and snack programs, the ongoing viability of a program requires volunteer time and commitment from the community.



Table 20: Key Activity: Increasing public awareness and the capacity of parents and caregivers to prevent injury among children 0-17 years through educational and skill building opportunities and consultations (target: adults 18 to 64 years, to prevent injuries in primary target of children 0-17 years)

INDICATOR TYPE	INDICATOR DESCRIPTION	2007	2008	2009
Level of Need/ Demand	Total number of adults (18 to 64 years) in York Region ^c	635,794	655,166	673,975
Reach	Proportion of adults (18 to 64 years) in York Region reached through direct contact	0.46%	0.50%	0.37%
Level of Service	Total number of adults (18 to 64 years) in York Region reached through direct contact per allocated staff*	343	597	715
Effectiveness	Percentage increase of adults (18 to 64 years) in York Region reached through direct contact	Baseline data collection	12.6% increase	23.8% decrease
Health Status	Unintentional injury hospitalization rate -- children 0-17 years of age ^b	YR: 175.0 per 100,000 ON: 223.6 per 100,000	YR: 161.1 per 100,000 ON: 211.6 per 100,000	YR: 147.2 per 100,000 ON: 208.5 per 100,000

^bHospital Inpatient Discharges; ^cPopulation Estimates

* Staff time is also devoted to additional activities

KEY TRENDS:

- The extent of reach out to adults through direct contact activities like workshops, telephone consults and poster display is consistently low over the three years. This prompted a program review.
- A decrease in the percentage of adults reached through direct contact with program staff in 2009 reflects a strategic shift away from workshops and telephone consults in favour of a more comprehensive approach that uses population health strategies with greater reach.

The Injury Prevention Program develops, implements and evaluates comprehensive injury prevention programming on topics such as road safety and home and recreational injury prevention. Target populations may include infants, children, youth, adults and older adults, with an emphasis on populations at risk in homes, schools, workplaces, sports and recreation venues, communities and primary health care settings. Program services address public education and engagement, capacity building, the development of community partnerships, the promotion of safe environments and advocacy for healthy public policy.



As one component of programming targeted at injury prevention in children, direct contact activities such as consultations, workshops and displays are provided for parents and caregivers. The 23.8% decrease in adults reached through these activities from 2008 to 2009 is a result of a substantial decrease in the number of workshops conducted (14 versus 74) and a significant drop in one-to-one telephone counselling (196 versus 348). This reflects a purposeful move away from one-time initiatives to a strategic focus on best practice comprehensive strategies linked to population health approaches with broader reach such as policy development, advocacy, “train the trainer” initiatives and social marketing. For instance, an extensive multi-year ‘Stay a Step Ahead’ social marketing campaign was initiated in 2007 to increase knowledge and awareness among parents and caregivers about growth and developmental factors associated with injuries to children 5-9 years of age. The first phase of the campaign involved multiple communication strategies in a variety of print and electronic media and distribution of campaign materials to targeted stakeholder venues such as schools, hospitals, and recreation centres. The second phase of the campaign in 2008 involved the translation of campaign brochures into Farsi, Punjabi, Tamil, Chinese and Russian and their subsequent distribution. In 2009, dissemination of campaign collateral continued, including a specific component targeting York Region physicians. Efforts to measure the reach and effectiveness of population health strategies such as a social marketing campaign are underway.

The decrease in program deliverables was also a result of H1N1 as the program ceased operation due to staff redeployment from October to the end of December 2009.

6.3 Community Engagement Case Study 4: Tobacco management policy at Southlake Regional Health Centre

Tobacco use is the leading cause of preventable morbidity and mortality in Canada. Often, smoking-related illnesses result in hospitalization, which is considered an optimum time to apply cessation strategies. Best practice emphasizes creating a supportive environment to promote tobacco-free living and implementing cessation supports including counselling, medication and self-help strategies.

In response to interest expressed by the hospital community, the clinical nurse specialist for the Healthy Lifestyles Division’s Tobacco-Free Living section engaged key planning and decision-making staff from Southlake Regional Health Centre as well as groups interested in pursuing a comprehensive tobacco management policy, to determine community need and to develop appropriate resources. The clinical nurse specialist provided presentations, consultation, training and resource development to the Central Local Health Integration Network Cancer Care Program Steering Committee, the Southlake Regional Health Centre Employee Wellness Committee and the Southlake Regional Health Centre Tobacco Management Taskforce.

To support tobacco cessation best practices, cardiac inpatient units at Southlake Regional Health Centre implemented a collaborative one year best practice pilot with the acclaimed Ottawa Heart Institute. It included applying brief contact intervention with each patient to ascertain smoking status, referral to a nurse trained in intensive cessation counselling, offering nicotine replacement therapies to manage nicotine withdrawal and follow-up upon discharge through telephone counselling support.

Southlake Regional Health Centre also committed to providing a comprehensive tobacco management program throughout the hospital, including brief contact intervention with all patients, offering nicotine replacement therapies in accordance with a new policy, providing self-help resources and referral to community resources. The Healthy Lifestyles clinical nurse specialist provided best practice workshops to 30 staff champions who will support and train their colleagues.



To create a supportive smoke-free environment, Southlake Regional Health Centre, in consultation with the Health Protection Division's Tobacco Education and Control program, developed a smoke-free grounds policy starting April 1, 2009. Support and training of Southlake Regional Health Centre security staff was provided during the implementation process. To further support a smoke-free environment, Southlake Regional Health Centre staff will offer no cost group tobacco cessation sessions in the workplace. In response to staff feedback, the clinical nurse specialist has offered "lunch and learns" focussed on harm reduction strategies for those employees who do not wish to quit smoking. Employees will also benefit from a doubling of health insurance credits to purchase tobacco cessation aids.

Sustainability, evaluation and communication plans are in various stages of development and implementation, as are events to promote the program and provide opportunities for staff and patient feedback. An evaluation of the best practice pilot in 2009 concluded that continuing the full comprehensive program was not financially sustainable at the time. However, a modified program continues to support the cardiac inpatient units.

6.4 Integration and Responsiveness Case Study 4:

Collaborating with reproductive health professionals to integrate smoking cessation best practice guidelines into daily practice

Maternal smoking remains a serious public health problem and is the leading cause of poor pregnancy outcomes, including neonatal morbidity and mortality. The effects of smoking and second-hand smoke on the woman, foetus and newborn are preventable. Pregnancy provides health professionals with a unique opportunity to work directly with women who smoke and their families. Best practice emphasizes addressing smoking status with all pre- and postnatal clients and their families, reducing exposure to second-hand smoke, using a woman-centred approach and reducing stigma by focusing on harm reduction.

In 2008, a partnership was established between the Tobacco-Free Living and Reproductive Health program staff. The goal is to work with health care providers who serve pre- and postnatal families to increase their capacity to integrate the Registered Nurses' Association of Ontario Tobacco Cessation Best Practice Guidelines into daily practice. To address the ongoing health impact of smoking on reproductive health and to identify best practices and individual learning needs, introductory sessions were conducted with the Child and Family Health Reproductive Health childbirth educators and public health nurses.

The partnership, together with the Central East Tobacco Control Area Network Cessation sub-committee, promoted and facilitated the 2009 Registered Nurses' Association of Ontario Smoking Cessation Champion workshop. The workshop provided research-based resources and opportunities for skill development. Participants included public health nurses, community and hospital-based nurses, nurse practitioners, midwives, physicians and health educators. Funding was received from the Registered Nurses' Association of Ontario to purchase various materials and resources to support the integration of best practices for reproductive health care practitioners within the York Region community. In addition, internal client health records were adapted and tools to incorporate tobacco-free living interventions were developed.

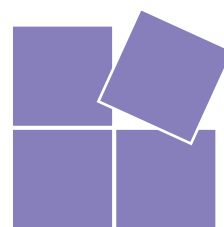
At present, Tobacco-Free Living and Reproductive Health program staff are planning the annual York Region reproductive health education day (2010) for health care practitioners. The focus of the day will be to share smoking cessation best practice strategies, introduce a woman-centred approach and provide participants with the necessary knowledge, skills and tools to build confidence in their counselling sessions with their clients. Sustainability, evaluation and communication plans for this initiative are in various stages of development and implementation. These include establishing team champions, developing client resources, and sourcing additional opportunities to develop professional competency for both public health and community health care practitioners.



7.0 FINANCIAL INDICATORS



7.0 Financial Indicators





7.0 Financial Indicators

Measuring the financial resources associated with program and service delivery is a crucial aspect of performance reporting, and a key component of the balanced scorecard Resources and Services quadrant. Common financial indicators across sectors include total costs and cost per capita.

In Ontario, the responsibility for funding public health programs is shared between the Province and the board of health. Most programs are cost-shared, with the Province paying 75% of costs and the municipality funding the remaining 25%. The Province provides 100% funding for certain areas, such as Smoke-Free Ontario and Healthy Babies, Healthy Children.

Annual budget

In 2008, the gross annual approved budget for the York Region Public Health Branch was \$49,616,205, an increase of 4.1% over the previous year's budget (Table 21). An 8.3% increase in corporate allocations, a 6.5% increase in salaries and benefits and a staffing complement increase of seven new FTEs contributed to this overall budget increase between 2007 and 2008 despite decreases in related program and 100% funded program budgets.

Table 21: 2008 approved budget vs. 2007 approved budget

	APPROVED BUDGET 2007	APPROVED BUDGET 2008	DIFFERENCE	% CHANGE
Mandatory Programs Costs	\$ 39,589,012	\$ 42,480,227	\$ 2,891,215	7.3%
Related Programs Shareable Costs	\$ 1,483,579	\$ 712,755	\$ (770,824)	-52.0%
100% Funded Program Costs	\$ 6,577,309	\$ 6,423,223	\$ (154,086)	-2.3%
Total	\$ 47,649,900	\$ 49,616,205	\$ 1,966,303	4.1%

In 2009, the gross annual approved budget for the Public Health Branch was \$53,270,890, an increase of 7.4% over the 2008 approved budget (Table 22). A staffing complement increase of 10 new FTEs and 100% provincial funding for an expansion of the Children In Need of Treatment program contributed to this increase.

**Table 22:** 2009 approved budget vs. 2008 approved budget

	APPROVED BUDGET 2008	APPROVED BUDGET 2009	DIFFERENCE	% CHANGE
Mandatory Programs Costs	\$ 42,480,227	\$ 45,053,838	\$ 2,573,611	6.1%
Related Programs Shareable Costs	\$ 712,755	\$ 548,821	\$ (163,934)	-23.0%
100% Funded Program Costs	\$ 6,423,223	\$ 7,668,231	\$ 1,245,008	19.4%
Total	\$ 49,616,205	\$ 53,270,890	\$ 3,654,687	7.4%

In-year under expenditures developed out of a number of circumstances in 2009, including regional delays in hiring and the management of programs in line with ongoing messages of constraint from the Province. These factors, combined with the re-direction of \$2.3 million of regular services to manage the H1N1 response, allowed York Region to absorb all H1N1-related costs within its approved cost-shared 2009 budget except for an additional \$1.3 million contributed by the Province. Total gross regional H1N1 response expenditures were \$5.9 million.

Board of health expenditure variance

Measuring expenditure variance--the percentage variance between the annual budget and year-end actual expenditures--is one way of assessing internal fiscal management. Some amount of variance is not unusual. The Public Health Branch's expenditure variance was -4.7% in 2007, -5.5% in 2008, and -2.7% in 2009. Table 23 shows expenditure variance for York Region Public Health and its peer health units in 2007.

Table 23: Public health expenditure variance in York Region and peer public health units, 2007²⁴

PUBLIC HEALTH UNIT	BOARD OF HEALTH EXPENDITURE VARIANCE (PERCENT)
Durham	-3.4%
Halton	-3.0%
Ottawa	-4.9%
Peel	-6.6%
Waterloo	-2.5%
Wellington-Dufferin-Guelph	0.0%
Windsor-Essex County	-8.2%
York	-4.7%
Ontario	-3.3%



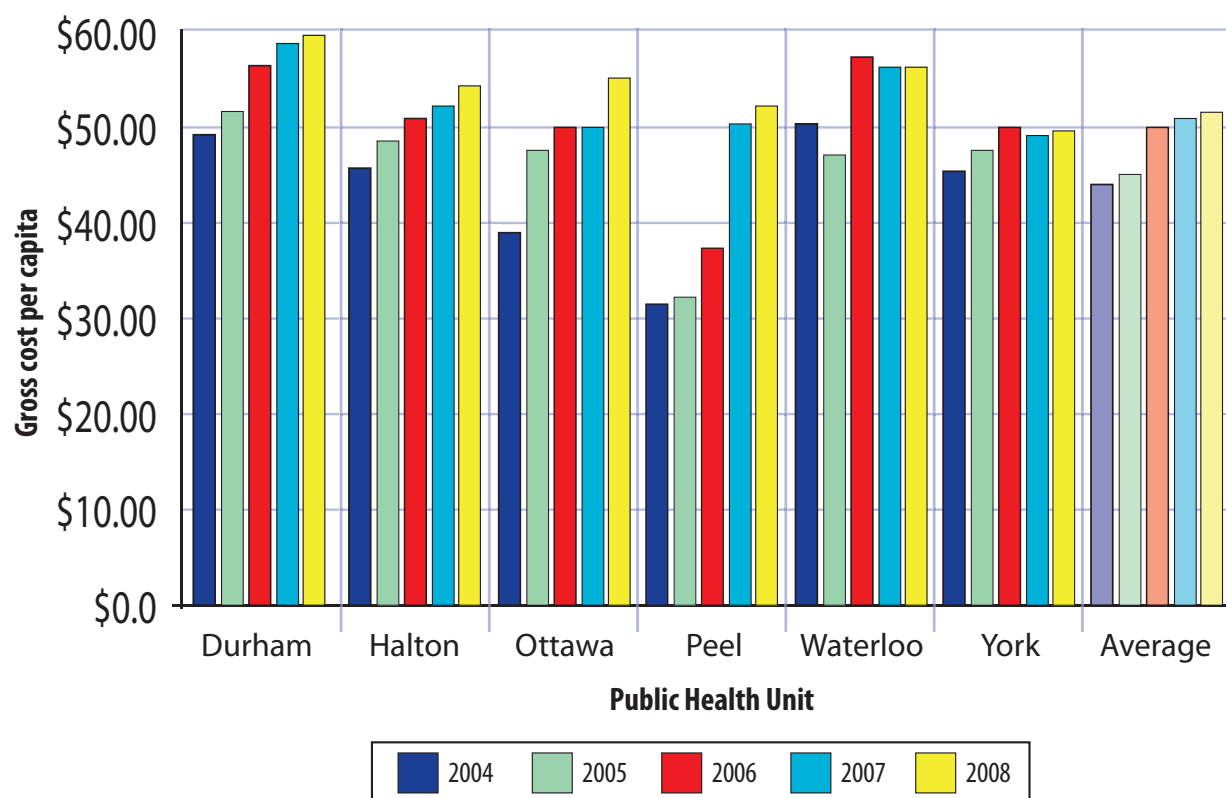
The majority (83%) of Ontario's health units reported underspending in 2007. Some of this is due to the lack of alignment between the fiscal years used by boards of health (January to December) and the provincial government (April to March). Provincial funding approvals are normally not provided until well into the fiscal year for public health—usually around the fall—which leaves little time to adjust spending or program service levels to accommodate the provincial funding adjustment.²⁵

In York Region, expenditure variance is affected by cost containment initiatives and planned gapping to actively manage expenditures, and by the successive staff vacancies which often result when job openings are filled internally.

Public health costs per capita

Determining per capita costs provides a basis for comparing financial data across jurisdictions. Figure 7 shows the gross cost per capita to provide public health programs in York Region and in selected other peer health units, based on expenditures.

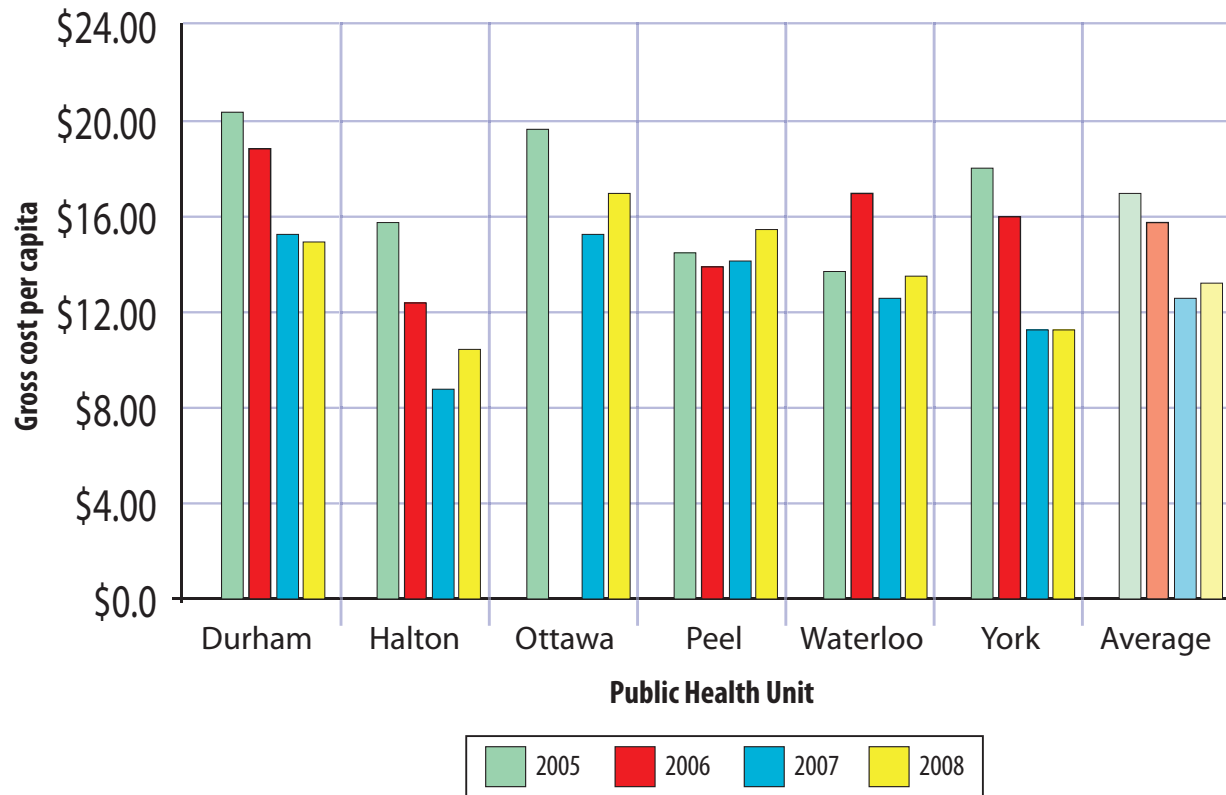
Figure 7: Gross cost per capita for York Region Public Health and peer public health units, 2004–2008²⁶



Net cost per capita measures the municipal funding component of public health expenditures.²⁷ Net costs over the past several years have been influenced by provincial funding increases for public health, from 50% in 2005, to 65% in 2006, and to 75% in 2007 (Figure 8).

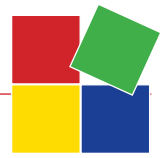


Figure 8: Net cost per capita for York Region Public Health and peer public health units, 2005–2008²⁸



York Region Public Health's gross per capita cost plateaued between 2004 and 2008, whereas most of its peer health units experienced a rising trend in gross per capita cost. This is most likely the consequence of York Region's population growth rate. The reduction in net per capita cost is primarily the consequence of the Province's assumption of a higher proportion of cost from 60 to 75% over this period as well as York Region's rate of population growth.





8.0 APPENDICES

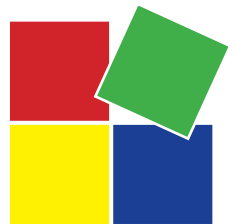
8.1 References

8.2 Data Sources

8.3 Glossary

8.4 List of Tables

8.5 *Balanced Scorecard for York Region Public Health 2009 evaluation form*





- ¹ Statistics Canada. (2008). Health regions and peer groups. [website]. Ottawa, ON: Minister of Industry. Retrieved September 25, 2009, from: <http://www.statcan.gc.ca/pub/82-221-x/2008001/5202322-eng.htm>.
- ² Ontario. Ministry of Health and Long-Term Care. Public Health Division. (2009). Initial report on public health. [Toronto]: Ontario Ministry of Health and Long-Term Care.
- ³ Woodward, G., Manuel, D., & Goel, V. (2004). Developing a balanced scorecard for public health. Toronto: Institute for Clinical Evaluative Sciences. Retrieved September 25, 2009, from http://www.ices.on.ca/file/Scorecard_report_final.pdf.
- ⁴ York Region Community and Health Services Department. (2008). A balanced scorecard for York Region Public Health 2007. Newmarket, ON: The Regional Municipality of York. Retrieved September 25, 2009, from: http://www.york.ca/NR/rdonlyres/irsynpzbrrmb2uphbf7vcs1546cg5ydggtclsi6p5tilxs7vx-l72auozjbvfyi5pczalk6yminz3dykrjbuqoc4iye/3093_balancedscorecard_2007_web.pdf.
- ⁵ Available at <http://www.biomedcentral.com/1471-2458/9/127>.
- ⁶ Ontario. Ministry of Health and Long-Term Care. Public Health Division. (2009). Initial report on public health. [Toronto]: Ontario Ministry of Health and Long-Term Care.
- ⁷ Ontario Agency of Health Protection and Promotion. (2008). Bordetella molecular testing - changes to result reporting. Labstract. LAB-SD-047-000.. Retrieved July 6, 2010, from: http://www.oahpp.ca/resources/documents/labstracts/LAB-SD-047-000_Pertussis_PCR.pdf.
- ⁸ Ontario. Ministry of Health and Long-Term Care. Public Health Division. (2009). Initial report on public health. [Toronto]: Ontario Ministry of Health and Long-Term Care.
- ⁹ Ontario. Ministry of Health and Long-Term Care. Public Health Division and Long-Term Care Homes Branch. (2004). A guide to the control of respiratory infection outbreaks in long-term care homes. Toronto, ON: Ontario Ministry of Health and Long-Term Care.
- ¹⁰ York Region Community and Health Services. Public Health Branch Infectious Diseases Control Division. (2009). Gastroenteritis institutional outbreak policy and procedures manual.
- ¹¹ York Region Surveillance Unit, Case Assignment Database. York Region Surveillance Unit, School Absenteeism Surveillance program.
- ¹² United States. National Institute of Health. (2008). National Cancer Institute fact sheet 4.21, Human Papillomavirus (HPV) vaccines: questions and answers. Retrieved October 29, 2009, from: <http://www.cancer.gov/cancertopics/factsheet/Prevention/HPV-vaccine>.
- ¹³ Public Health Agency of Canada, Canadian Lung Association/Canadian Thoracic Society. (2007). Canadian Tuberculosis Standards, 6th edition.
- ¹⁴ Phipers M. (2007). Special report of the Canadian Tuberculosis Committee. Tuberculosis and HIV co-infection in Canada. Canadian Communicable Disease Report 33(08).
- ¹⁵ Ontario. Ministry of Health and Long-Term Care. Public Health Division. (2009). Initial report on public health. [Toronto]: Ontario Ministry of Health and Long-Term Care.
- ¹⁶ Ontario. Ministry of Health and Long-Term Care. Early Years and Healthy Children Development Branch. Integrated Services for Children Division. (2003). Healthy Babies, Healthy Children complete guide to screening and assessment. Toronto, ON: Ministry of Health and Long-Term Care, Ministry of Community, Family and Children's Services, p.IV-1.
- ¹⁷ Ibid. p.V-1.
- ¹⁸ Ontario. Ministry of Health and Long-Term Care. Public Health Division. (2009). Initial report on public health. [Toronto]: Ontario Ministry of Health and Long-Term Care.
- ¹⁹ Ontario. Ministry of Health and Long-Term Care. Public Health Division. (2009). Initial report on public health. [Toronto]: Ontario Ministry of Health and Long-Term Care.
- ²⁰ World Health Organization. (2009). Climate change and health. Report by the Secretariat. Sixty-second World Health Assembly. Provisional agenda item 12.7. Retrieved June 17, 2010, from: http://www.who.int/globalchange/A62_11_en.pdf.
- ²¹ World Health Organization. (2010). Climate change and human health. [website]. Retrieved June 17, 2010, from: <http://www.who.int/globalchange/en/>.
- ²² Prochaska J.O., Redding C.A., & Evers K.E. (2002). The transtheoretical model and stages of change. In Glanz, K. et al. Health behavior and health education: theory, research and practice, 3rd ed. San Francisco: Jossey-Bass.
- ²³ Ministry of Health Promotion.
- ²⁴ Board of health expenditure variance is calculated as the percentage variance between a board of health's projected annual budget for core and related public health programs and services and year-end actual expenditures with revenue from all sources. Ontario. Ministry of Health and Long-Term Care. Public Health Division. (2009). Initial report on public health. [Toronto]: Ontario Ministry of Health and Long-Term Care.
- ²⁵ Ontario. Ministry of Health and Long-Term Care. Public Health Division. (2009). Initial report on public health. [Toronto]: Ontario Ministry of Health and Long-Term Care.
- ²⁶ Ontario Municipal CAO's Benchmarking Initiative.
- ²⁷ I.e., all money spent on public health less revenues (from fees and service charges) and provincial funding.
- ²⁸ Ontario Municipal CAO's Benchmarking Initiative



- Cholewa, S., Moran, K., Cheung, Y. (2010). An evaluation of the consensus-building process to develop a balanced scorecard for York Region Public Health 2007. *Healthcare Quarterly* 13(2).
- Ontario Agency of Health Protection and Promotion. (2008). Bordetella molecular testing - changes to result reporting. Lababstract. LAB-SD-047-000. Retrieved July 6, 2010, from: http://www.oahpp.ca/resources/documents/lababstracts/LAB-SD-047-000_Pertussis_PCR.pdf.
- Ontario. Ministry of Health and Long-Term Care. Early Years and Healthy Children Development Branch. Integrated Services for Children Division. (2003). *Healthy Babies, Healthy Children complete guide to screening and assessment*. Toronto, ON: Ministry of Health and Long-Term Care, Ministry of Community, Family and Children's Services.
- Ontario. Ministry of Health and Long-Term Care. Public Health Division. (2009). *Initial report on public health*. [Toronto, ON]: Ontario Ministry of Health and Long-Term Care.
- Ontario. Ministry of Health and Long-Term Care. Public Health Division and Long-Term Care Homes Branch. (2004). *A guide to the control of respiratory infection outbreaks in long-term care homes*. Toronto, ON: Ontario Ministry of Health and Long-Term Care.
- Phypers M. (2007). Special report of the Canadian Tuberculosis Committee. Tuberculosis and HIV co-infection in Canada. *Canadian Communicable Disease Report* 33(08).
- Prochaska J.O., Redding C.A., & Evers K.E. (2002). The transtheoretical model and stages of change. In Glanz, K. et al. *Health behavior and health education: theory, research and practice*, 3rd ed. San Francisco: Jossey-Bass.
- Public Health Agency of Canada, Canadian Lung Association/Canadian Thoracic Society. (2007). *Canadian Tuberculosis Standards*, 6th edition.
- Statistics Canada. (2008). Health regions and peer groups. [website]. Ottawa, ON: Minister of Industry. Retrieved September 25, 2009, from: <http://www.statcan.gc.ca/pub/82-221-x/2008001/5202322-eng.htm>.
- United States. National Institute of Health. (2008). National Cancer Institute fact sheet 4.21. Human Papillomavirus (HPV) vaccines: questions and answers. Retrieved October 29, 2009, from: <http://www.cancer.gov/cancertopics/factsheet/Prevention/HPV-vaccine>.
- Weir, E., d'Entremont, N., Stalker, S., Kurji, K., Robinson, V. (2009). Applying the balanced scorecard to local public health performance measurement: deliberations and decisions. *BMC Public Health*, 9:127. Retrieved October 23, 2009, from: <http://www.biomedcentral.com/1471-2458/9/127>.
- Woodward, G., Manuel, D., & Goel, V. (2004). *Developing a balanced scorecard for public health*. Toronto: Institute for Clinical Evaluative Sciences. Retrieved September 25, 2009, from: http://www.ices.on.ca/file/Scorecard_report_final.pdf.
- World Health Organization. (2009). Climate change and health. Report by the Secretariat. Sixty-Second World Health Assembly. Provisional agenda item 12.7. Retrieved June 17, 2010, from: http://www.who.int/globalchange/A62_11_en.pdf.
- World Health Organization. (2010). Climate change and human health. [website]. Retrieved June 17, 2010, from: <http://www.who.int/globalchange/en/>.
- York Region Community and Health Services Department. (2008). *A balanced scorecard for York Region Public Health 2007*. Newmarket, ON: The Regional Municipality of York. Retrieved September 25, 2009, from: http://www.york.ca/NR/rdonlyres/irsynpzbrmb2uphbf7vcsI546cg5ydggtclsi6p5tilxs7vxl72auozjbvfyi5pczalk6yminz3dykrjbuqoc4iye/3093_balancedscorecard_2007_web.pdf.
- York Region Community and Health Services. Public Health Branch Infectious Diseases Control Division. (2009). *Gastroenteritis institutional outbreak policy and procedures manual*.

**^aIntegrated Public Health Information System (iPHIS)**

iPHIS is the database that Ontario public health units are required to use for the collection and analysis of information related to cases and contacts of reportable disease as well as for the purposes of outbreak management. The most common source of case identification is through laboratory notification of confirmed test results (serology, microbiology cultures, etc.). Physicians are required to report cases that fulfill laboratory or clinical case definitions. There may be considerable under-reporting of actual cases for some diseases. For instance, when an infected person has mild clinical symptoms they may not seek medical care and/or laboratory testing may not be performed.

^bHospital Inpatient Discharges

Data are collected from each patient's chart at the time of discharge from hospital and are recorded on an abstract provided by Canadian Institute for Health Information. The abstract collects information on the patient and the nature of their stay. One abstract is completed for each separation (stillbirth, death, discharge) from the hospital. The main diagnostic code gives the primary reason for the hospital stay or "most responsible diagnosis." A second set of codes, external cause or "e-codes", are used to classify the environmental events, circumstances and conditions that cause an injury (e.g. motor vehicle traffic injury). While the e-codes are the principal means for classifying injury deaths, they are not used as a most responsible diagnosis for hospitalizations so they need to be examined separately. The data presented in this report include discharges from January 1, 2007 – December 31, 2008. The data represent the number of discharges, not the number of people. Data access was provided through Intellihealth Ontario, a data repository hosted by the Ontario Ministry of Health and Long-Term Care.

^cPopulation Estimates

The source data used are population estimates by single year of age (up to 90+) and sex for Ontario Census Divisions as of July 1, 2007 – 2009. The population estimates are produced by the Demography Division, Statistics Canada, and are based on the 2006 census counts adjusted for net undercoverage. The latest update to the population estimates includes revisions to postcensal estimates for 2007–2008 and new estimates for 2009.

^dRapid Risk Factor Surveillance System (RRFSS)

RRFSS is an ongoing monthly telephone survey that occurs in various public health units across Ontario. Every month, a random sample of 100 adults aged 18 years and older in each participating health unit area is interviewed regarding awareness, knowledge, attitudes and behaviours about topics and issues of importance to public health. These can include: smoking, sun safety, use of bike helmets, air quality, etc. The telephone survey is conducted by the Institute for Social Research at York University on behalf of the York Region Community and Health Services Department and other participating health units.

^eDental Indices Survey 2007-2008 (DIS)

DIS is a survey conducted annually by Ontario public health units on the oral health status of a sample of children ages 5, 7, 9 or 13 years who attend publicly funded schools. The sample is chosen from the population of children who receive dental screening every year in schools. Children who are absent from school on the day of the DIS, schooled at home or who refuse are excluded. Children living on native reserves, military bases, in institutions or attending private schools are also excluded.

^fDental Screening

Dental health screening is conducted annually by Ontario public health units to identify children with severe dental health problems and those eligible for the Children In Need of Treatment (CINOT) program or for preventive oral health services (topical fluoride or pit and fissure sealants).

^gCanadian Community Health Survey (CCHS)

The CCHS is a federal survey to provide health information at regional, provincial and national levels. The target population of the CCHS is residents aged 12 years and older in all provinces and territories, excluding populations on native reserves, military bases and some remote areas. Data collection is done by a combination of computer assisted personal and telephone interviewing. The indicators from the survey are based on self-reported information and may be subject to biases, such as recall bias or social desirability bias, or result in high non-response. As such, the estimates may be an underestimate or overestimate of the true prevalence in the population.

^hSexual Health Clinics Database

The York Region sexual health clinics database stores routine information on clients accessing clinic services at the various locations in the Region. Aggregated counts of clients by age and sex are regularly compiled by the type of visit (i.e., STI vs. birth control), as well as previous visit history. Additional information on the number and types of laboratory tests ordered, treatments provided, and health care professional consultations are also captured in the database. The "reason for the visit" is identified at the beginning of the visit, and each visit is classified as having one reason. Therefore the true number of clinic services delivered is underestimated by the database.

ⁱHepatitis B, Meningococcal C and Human papillomavirus (HPV) Clinic Statistics Spreadsheets

Three voluntary immunizations are provided by public health unit staff in school based clinics. Immunization against meningococcal C infection is administered to grade 7 students in Ontario, based on a one-dose schedule. Immunization against the hepatitis B virus is administered to grade 7 students in Ontario, based on a two-dose schedule. Immunization against the human papillomavirus (HPV) is administered to grade 8 female students in Ontario, based on a three-dose schedule. At the school-based clinics in York Region, immunizations are tracked using paper-based consent forms, and tabulated based on grade and dose number where applicable. Hepatitis B immunization coverage estimates are computed based on the number of students in grade 7 receiving both vaccine doses relative to the number of eligible students in a given school year (excluding those previously immunized). Similarly, HPV immunization coverage estimates are computed based on the number of students in grade 8 females receiving all three vaccine doses relative to the number of eligible students in a given school year (excluding those previously immunized). Immunization coverage may be underreported as the estimates exclude students immunized by their health care provider, and those completing their immunization series in subsequent years.

^jIntegrated Services for Children Information System (ISCIS)

ISCIS is a data system used for collecting information for the Healthy Babies, Healthy Children program. A number of Healthy Babies, Healthy Children program screens and assessments can be entered into ISCIS, including the Parkyn postpartum screen, the Larson prenatal screen, the brief assessment and the in-depth assessment. ISCIS data are collected and entered by public health units, who are custodians of the data.

**^k Mortality Data**

Mortality data for York Region and Ontario are provided to York Region Community & Health Services Department through IntelliHEALTH Ontario of the Ontario Ministry of Health and Long-Term Care. Mortality data are derived from death certificates completed by physicians and collected by the Office of the Registrar General. The cause of death reported is that which initiates the sequence of events leading to death. Causes of death for 2004 and 2005 were coded using the Tenth Revision of the International Classification of Diseases (ICD-10). For all indicators, mortality data is analyzed by the residence of the deceased, not where the death occurred.

^l York Region Health Services Breastfeeding Clinic Client Satisfaction Survey

A survey of clients attending York Region Public Health breastfeeding clinics, administered by the breastfeeding program (2009).

^m York Region Community and Health Services Dental Program Internal Tracking System

The dental program uses a paper- and computer- based system to track dental screening, urgent and non-urgent dental findings and the number of preventive services offered and provided.

**Brief assessment tool**

The brief assessment tool is delivered as part of a nursing assessment which assesses a baby or child's health, the mother's physical health, the mother's mental health, the stresses on the family and the level of social support. The assessment is used to determine who would benefit from an in-depth assessment.

Completed reportable disease case investigation

An investigation of a confirmed reportable disease case in which any of the following activities were delivered by public health:

- assessment
- screening (by telephone, mail, email or in-person)
- ordering diagnostic tests under Medical Officer of Health directives
- counselling
- health education regarding disease transmission, symptoms, complications, and/or prevention
- contact follow-up

Confirmed reportable disease case

A client that meets the criteria specified under the provincial surveillance case definitions for reportable diseases.

Consultations

A consultation is an interaction between public health staff and a client or key stakeholder. This may take place via telephone, email or in-person. Purposes of consultation include:

- to engage in and/or guide through discussion, critical thinking or a decision-making process
- to impart public health and other relevant information, resources and expertise

Enteric illness

A gastrointestinal infection that is transmissible from one person to another, either directly or indirectly.

Healthy Schools

Schools who have committed to working towards a Comprehensive School Health approach. Schools participating in the York Region Healthy Schools Program receive support and resources from public health staff to assess strengths and needs, link to community partners and develop, implement and evaluate a Comprehensive School Health action plan.

High risk inspection

An inspection conducted at a facility that was assessed as a high risk premise as per the Hazard Analysis Critical Control Point (HACCP Protocol). Examples include full service food premises such as banquet halls.

High risk personal services settings

Personal services settings that have the potential for the transmission of blood-borne diseases. These include premises that offer tattooing, ear/body piercing, acupuncture, and electrolysis.

In-depth assessment tool

The in-depth assessment is a detailed interview, used with families identified on the brief assessment as being "at risk". This detailed assessment is designed to identify families "at high risk", identify the family's strengths and risks, and determine the Healthy Babies, Healthy Children services and supports that they might need.

Institution

Within the context of infectious disease outbreak investigations, these include long-term care homes, retirement homes, hospitals, child care facilities, and schools, defined as follows:

Long-term care home: See definition below.

Retirement home: A building in which accommodation is provided, mainly for retired persons; common kitchen and dining facilities are provided for the residents, and common lounges, recreation rooms and health care facilities may also be provided for the residents.

Hospital: Any institution, building or other premises or place that is established for the purposes of the treatment of patients and that is approved under the *Public Hospitals Act*.

Child care facility: A premise that receives more than five children who are not of common parentage, primarily for the purpose of providing temporary care, or guidance, or both temporary care and guidance, for a continuous period not exceeding 24 hours.

School: The body of elementary or secondary school pupils that is organized as a unit for educational purposes under the jurisdiction of the appropriate board, or the body of pupils enrolled in elementary or secondary school courses of study in an educational institution operated by the Government of Ontario, including teachers and other staff members associated with the unit or institution and the lands and premises used in connection with the unit or institution. A private school is an institution at which instruction is provided at any time between the hours of 9 a.m. and 4 p.m. on any school day for five or more pupils who are of or over compulsory school age in any of the subjects of the elementary or secondary school courses of study.

Key activity

A process, task, or service that takes up the bulk of staff time/resources, or that addresses a strategic priority.

Larson prenatal screen

The Larson prenatal screening tool is used for early detection of families who may need support to help their infant achieve his/her potential. It consists of three questions, and may be completed at prenatal clinics, physicians' offices or other community sites, or by phone by nurses, physicians, midwives, and other service providers skilled in maternal/ newborn care. Women who score "at risk" are referred to the public health unit for a brief assessment and appropriate supports.

Long-term care home

An institution which provides care and services for people who no longer are able to live independently or who require onsite nursing care, 24-hour supervision or personal support. Nursing homes under the Nursing Homes Act, approved charitable homes for the aged under the Charitable Institutions Act and homes under the Homes for the Aged and Rest Homes Act are all long-term care homes. This definition includes all nursing homes and homes for aged. It does not include temporary and interim facilities. It excludes retirement homes and supportive housing.

Low risk inspection

An inspection conducted at a facility that was assessed as a low risk premise as per the Hazard Analysis Critical Control Point (HACCP Protocol). Examples include convenience stores.

Medium risk inspection

An inspection conducted at a facility that was assessed as a medium risk premise as per the Hazard Analysis Critical Control Point (HACCP Protocol). Examples include submarine shops and pizza shops.

**Parkyn postpartum screen**

The Parkyn screen consists of a series of questions designed to identify factors associated with risk of parenting problems. Postpartum screening aims to reach all women (consenting) who give birth in Ontario, and is generally applied in hospital by maternity nurses.

Peer group

A peer group is a cluster of health units with similar social and economic factors. From a practical perspective, the impact of social and economic factors on health outcomes can be seen more clearly by clustering the health units and comparing results within peer groups.

Peer groups were used for comparison purposes in the Initial Report on Public Health released by the Ministry of Health and Long-Term Care in 2009. At the time, there were nine peer groups based on 24 variables, which used 2007 health region boundaries and 2001 Census data. Subsequently Statistics Canada updated their peer groups with 2006 Census data. The peer groups were defined using two new variables in place of similar variables that were used in the previous peer group classification. Income is now defined as the median household income rather than the previously used average household income because it is more representative of the economic situation faced by families and communities. A change was made to the definition of the dependency ratio, which is now defined as the proportion of the population under 20 rather than the population under 15. The result of the new analysis was that 10 peer groups were created. Ontario health units fall into seven of the 10 peer groups.

In the 2007 peer groups, York Region was in peer group B, defined as mainly urban centres with moderately high population density, low percentage of government transfer income and rapid population growth from 1996 to 2001.

In the new 2010 peer groups, York Region is part of peer group J, defined as mainly urban centres with high population density, low proportion of aboriginal population and high proportion of immigrants. Peel Region is the only other Ontario health unit that is part of peer group J.

Personal services setting

A setting in which aesthetic services are delivered, such as but not limited to hairdressing and barber shops, tattoo and body piercing studios, and premises that deliver electrolysis and acupuncture. High risk personal services settings are those that have the potential for the transmission of blood-borne diseases. These include premises that offer tattooing, ear and body piercing, acupuncture, and electrolysis.

Public spas

A hydro-massage pool containing an artificial body of water that is intended primarily for therapeutic or recreational use, that is not drained, cleaned or refilled before use by each individual and that utilizes hydrojet circulation, air induction bubbles, current flow or a combination of them over the majority of the pool area.

Regulated recreational water facilities

An artificial body of water associated with a facility used for patron recreational activity. Examples include municipal pools and pools and spas in an apartment building and/or hotel.

Re-inspections

A re-inspection is a follow-up to an inspection to ensure compliance and inspection requirements are met.

Reportable disease

A disease designated as reportable to the local Medical Officer of Health by a regulation made by the Minister of Health and Long-Term Care.

Target population

The population eligible to receive the activity described in a key activity table. Targets may include a demographic segment of the population, client groups, community partners, or sites where service is delivered.

Stages of change

The Stages of Change Model is a transtheoretical model developed by James Prochaska and Carlo DiClemente of the University of Rhode Island. It attempts to predict or explain success or failure in adopting a proposed behaviour by tracking the change process through a series of stages.

Statistical significance

A statistical result is referred to as "significant" if it is unlikely to have occurred by chance. A statistically significant difference refers to statistical evidence of a difference between two results. For the purposes of this report, differences in disease incidence rates from year-to-year were tested for statistical significance with a chi square test to compare proportions/rates, using the 95% confidence interval of the rate ratio.

Unintentional injury

In the field of injury prevention, injuries are categorized as being unintentional or intentional. Unintentional injuries include injuries sustained from motor vehicle collisions, falls, scalds, burns, drownings, poisoning or suffocation. Intentional injuries include injuries sustained from suicide and violence.

Urgent dental conditions:

Urgent dental cases as defined by the Ministry of Health Promotion's Children in Need of Treatment (CINOT) program, include cases that involve: infection; haemorrhage; trauma; pathology, present pain or pain frequently in the week preceding CINOT eligibility determination; and dental caries when there are large, open lesions in permanent teeth well into the dentin, or in crucial primary teeth that, if left untreated, the child might be deemed to be in a state of dental neglect and thus eligible for referral to a Children's Aid Society under the *Child and Family Services Act*.

Voluntary immunizations

Vaccines that are recommended but not required for attendance at school.

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Balanced Scorecard of York Region Public Health 2009 Evaluation Form

The Public Health Branch of the Regional Municipality of York's Community and Health Services Department has undertaken a second balanced scorecard to measure and monitor divisional activities. Your honest responses to this evaluation would be greatly appreciated. All responses are anonymous and they will be aggregated to provide an overall picture of end-user feedback of the balanced scorecard to assist with future revisions.

1. In your opinion, was the balanced scorecard helpful in providing you with relevant information on the **activities** of York Region Public Health?

☐ Strongly Agree
 ☐ Agree
 ☐ Disagree
 ☐ Strongly Disagree
 ☐ Not Applicable
2. In your opinion, was the balanced scorecard helpful in providing you with the relevant information on the **accomplishments** of York Region Public Health?

☐ Strongly Agree
 ☐ Agree
 ☐ Disagree
 ☐ Strongly Disagree
 ☐ Not Applicable
3. Do you think there was information missing from the balanced scorecard that you would have been interested in?

☐ Yes
 ☐ No
 ☐ Not Applicable

If yes, please elaborate: _____
4. What do you think about the level of detailed provided in the balanced scorecard?

☐ Too much detail
 ☐ Not enough detail
 ☐ Enough detail to provide a general overview
5. Was the information provided within the balanced scorecard communicated in a simple and clear manner?

☐ Yes
 ☐ No

Suggestions for Improvement: _____

6. Was the visual presentation of the information in the balanced scorecard presented aesthetically?

☐ Yes
 ☐ No

Suggestions for Improvement: _____

7. Did the balanced scorecard accurately reflect the business function of the Public Health Branch?

☐ Yes
 ☐ No

Suggestions for Improvement: _____

8. Comparing the 2009 balanced scorecard to the 2007 balanced scorecard, the 2009 version is:

☐ More informative
 ☐ Similarly informative
 ☐ Informative
 ☐ Less informative
 ☐ Did not see the 2007 report
9. The balanced scorecard could be improved by... _____

10. Overall, I was satisfied with the balanced scorecard as a whole

☐ Yes
 ☐ No
 ☐ Not Applicable

Thank you for taking the time to provide your feedback and honest opinion!

