York Region Sentinel School Health Monitoring Program

YEAR END REPORT: PHASE I

2005-2006

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BACKGROUND

Public health surveillance involves the systematic and ongoing collection, analysis and dissemination of data in a timely manner to those responsible for taking action (Buehler *et al* 2004; Last 2001). Public health surveillance practitioners are faced with the task of identifying trends that might suggest the onset of an epidemic period and providing timely information on the course of disease and other health events that may facilitate the prompt implementation of prevention and intervention strategies (Nobre & Stroup 1994).

Sentinel surveillance uses a well-defined population, such as schools, for the routine collection of data that may be useful in the early detection and monitoring of communicable diseases (Last 2001). The most common types of illnesses transmitted in school environments are those of respiratory and enteric origin (Meadows & Le Saux 2004). Respiratory illnesses such as influenza are known to circulate among school-age children, and absenteeism rates above 10% during influenza season are known to correlate with spread in the general population (Vancouver Coastal Health 2005). Influenza-related illnesses and school absenteeism have also been observed to peak in school children before workplace absenteeism among adults in the same community (King *et al* 2005). While the epidemic nature of influenza and the high attack rates in children would be expected to cause significant disruption of usual activities at school and at home, data related to the effects of influenza on school absenteeism are limited (Neuzil *et al* 2002). The role sentinel school surveillance plays in detecting infectious disease patterns early and assisting in establishing appropriate responses to emerging public health threats requires further examination.

Public health agencies around the world are developing surveillance strategies using non-traditional data sources to enhance outbreak detection capacity (Besculides *et al* 2005). In Canada, sentinel school surveillance programs have been implemented in the provinces of British Columbia and Manitoba (British Columbia Centre for Disease Control 2006; Manitoba Health Public Health 2006). Regional surveillance programs which monitor school absenteeism rates have also been implemented in the province of Ontario, namely in Hamilton and Durham regions. In the United States, the state of Indiana enacted laws requiring that all schools report absences that exceed 20% to their local health departments and several other states have followed suit. The Indiana state program was implemented in 2004 for the early detection of disease outbreaks to reduce the time required to respond to an outbreak and minimize the number of individuals who become ill. The state has since indicated that the prompt notification of elevated school absenteeism rates has helped in outbreak detection and in preventing further illness (Indiana State Department of Health 2006). Sentinel school surveillance initiatives have also been effective in the state of Wisconsin, where reports of an unusual increase in high school absenteeism helped raise initial awareness of a cryptosporidiosis outbreak in 1993 (Besculides *et al* 2005). In Japan, the school health surveillance program is long established as the sole notifiable surveillance system for indicating the presence of paediatric influenza and has been operational since school health laws were enacted in 1958 (Fujii *et al* 2002). Surveillance programs have proven to be effective in both the United States and Japan; however, data related to sentinel school surveillance in Canada is limited. Although school surveillance programs have been implemented in several jurisdictions across Canada, the results and outcome of such initiatives have yet to be published.

In October 2005, York Region Health Services (YRHS) collaborated with the York Region District School Board (YRDSB) to implement Phase I of the York Region Sentinel School Health Monitoring Program. The purpose of this pilot program was to monitor and collect numerical baseline data on school syndromic absentee rates related to respiratory and enteric symptoms and to identify trends of illness within the school community. This confidential information was to be used for the monitoring of infectious diseases and it was expected that the data would help identify infectious disease trends and infection control issues in York Region Schools and their surrounding communities.

This year end report will focus on summarizing the results of Phase I (2005-2006) of the York Region Sentinel School Health Monitoring Program, providing descriptive statistics, presenting school absenteeism rates of respiratory and enteric illness and evaluating trends related to local reportable disease statistics. These surveillance data will be used to evaluate the utility of school absenteeism data for the early detection of public health threats and further examine the necessary steps required to move into Phase II (2006-2007) of the Sentinel School Health Monitoring Program.

METHODS

Preliminary discussions with the York Region District School Board commenced in October 2003 and Phase I of the Sentinel School Health Monitoring Program was implemented in October 2005 to monitor and collect information related to respiratory and enteric absenteeism. Based on consultation with the York Region District School Board, pilot schools were voluntarily recruited to participate in this program.

York Region Health Services conducted passive surveillance from October 11, 2005 (Week 7 of school year) through to June 23, 2006 (Week 43). Parents were prompted to leave a voice message on school messaging systems and in some schools spoke directly to a secretary to indicate whether their child was absent due to respiratory, enteric or other types of illness. Pilot schools recorded and submitted absenteeism information via e-mail to York Region Health Services on either a daily or weekly basis.

To assess trends in absenteeism, rates and percentages were calculated using school absenteeism and population data. The median daily absentee rate due to illness was calculated separately for elementary/middle schools (Kindergarten to Grade 8) and secondary schools (Grade 9 to Grade 12) and examined to determine whether the absentee rates due to illness differed between the two groups. Further analysis was conducted to assess whether absenteeism varied by school, day of the week and whether it was higher on days scheduled for exams, half days, etc. Absenteeism data was subsequently graphed for further trend analysis. Analyses were carried out using Microsoft Excel (2003), PEPI Version 4.0 (Abramson and Gahlinger 2001) and SPSS version 12.0 (2003) for Windows. A glossary of technical terminology is presented in Appendix A.

RESULTS

Eight schools participated in Phase I of the Sentinel School Health Monitoring Program (2005-06) including 4 elementary schools and 4 secondary schools that were geographically dispersed across York Region (Table 1). The student population of these schools ranged from a total of 324 to 1,342 students, with a combined total of 7,230 students among all schools.

Table 1: York Region Sentinel School Demographics (2005-2006)

School Name	School Type	Municipality
School A	Elementary	Vaughan
School B	Elementary	Georgina
School C	Elementary	Richmond Hill
School D	Elementary	Markham
School E	Secondary	King
School F	Secondary	Newmarket
School G	Secondary	Vaughan
School H	Secondary	Markham

Comparing rates between elementary/middle schools and secondary schools, the median daily absentee rate due to illness over the school year (2005-06) was 19 absences per 1000 students (range 0-141 per 1000) among elementary/middle schools and 23 absences per 1000 students (range 2-93 per 1000) among high school students. Although the median daily absentee rate due to illness was higher for high school students, the difference was not deemed to be statistically significant ($p > 0.05$). Including data for all schools, the median daily absentee rate due to illness was 21 absences per 1000 students (range 0-141 per 1000) for the entire school year.

The median daily absentee rate due to respiratory illness over the school year (2005-06) was 3.1 per 1000 students (range 0-37 per 1000) among elementary/middle schools and 2.8 per 1000 students (range 0-23 per 1000) among high school students. The median daily absentee rate due to respiratory illness was slightly higher for elementary/middle schools but the difference was not deemed to be statistically significant ($p > 0.05$). Among all schools, the median daily absentee rate due to respiratory illness was 3.1 per 1000 students (range 0-37 per 1000) for the duration of the school year.

The median daily absentee rate due to enteric illness over the school year (2005-06) was 1.6 per 1000 students (range 0-18 per 1000) among elementary/middle schools and 3.4 per 1000 students (range 0-28 per 1000) among high school students. The median daily absentee rate due to enteric illness was slightly higher for high schools; however, the difference was not statistically significant ($p > 0.05$). Combining the data for all schools, the median daily absentee rate due to enteric illness was 1.6 absences per 1000 students (range 0-28 per 1000) for the entire school year.

Average absenteeism rates due to illness were highest on Mondays (26.7 absences per 1000 students) followed by Fridays (24.0 absences per 1000), Tuesdays (23.7 absences per 1000), Thursdays (22.3 absences per 1000) and Wednesdays (21.2 absences per 1000). In comparison to regular school days, absenteeism was two times higher on days preceding the winter and March break holidays.

In comparing absenteeism data between schools, median weekly absenteeism rates ranged from 15.2 to 35.9 absences per 1000 students while median weekly percent absenteeism ranged from 1.5% to 3.6% (Table 2). Apart from schools A, C and D, average weekly absenteeism rates and percentages were comparable to median absenteeism results. Average absenteeism rates for certain schools were elevated preceding the March break and this likely skewed their average weekly rates of absenteeism upwards.

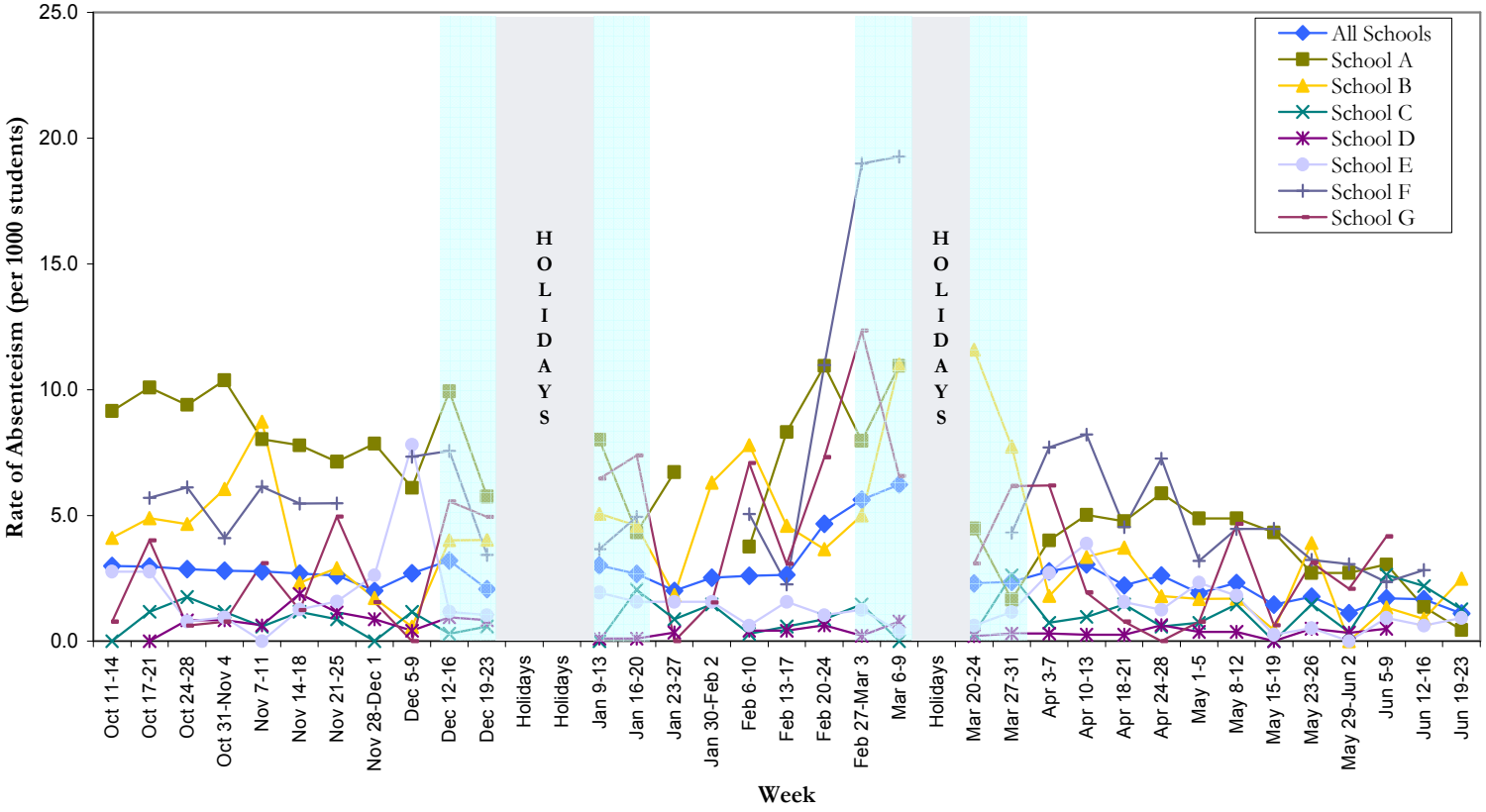
Table 2: Sentinel School Absenteeism Rates and Percentages in York Region (2005-2006)

School Name	Average Weekly Rate of Absenteeism (per 1,000)	Median Weekly Rate of Absenteeism (per 1,000)	Average Weekly Percent Absenteeism	Median Weekly Percent Absenteeism
School A	29.0	26.1	2.9	2.6
School B	22.3	21.6	2.2	2.2
School C	21.1	16.1	2.1	1.6
School D	20.2	15.2	2.0	1.5
School E	22.1	21.1	2.3	2.1
School F	37.5	35.9	3.8	3.6
School G	17.9	17.8	1.8	1.8

†Data for one school is not reported due to irregular data submissions.

Figure 1 represents the rate of absenteeism due to reported respiratory illness, showing school absenteeism rates for individual pilot schools and for all schools combined; data submissions were incomplete for one pilot school. There were two major holiday seasons during the 2005-06 school year (i) Christmas Holidays from December 26, 2005 to January 6, 2006 and, (ii) March Break from March 10 to March 17, 2006 (Appendix B). The timeframe approximately one week prior to and following the holidays has been highlighted to draw attention to increases in student absenteeism. Substantial increases in absenteeism may also be attributed to other religious holidays such as Diwali (Hindu festival) on November 1, 2005 (Week 10) and the Easter holiday on April 14 and 17, 2006 (Week 33-34). Two of the secondary schools have significantly higher respiratory absenteeism rates throughout the school year and three exhibit a significant increase in absenteeism before major holidays compared to other elementary/middle schools.

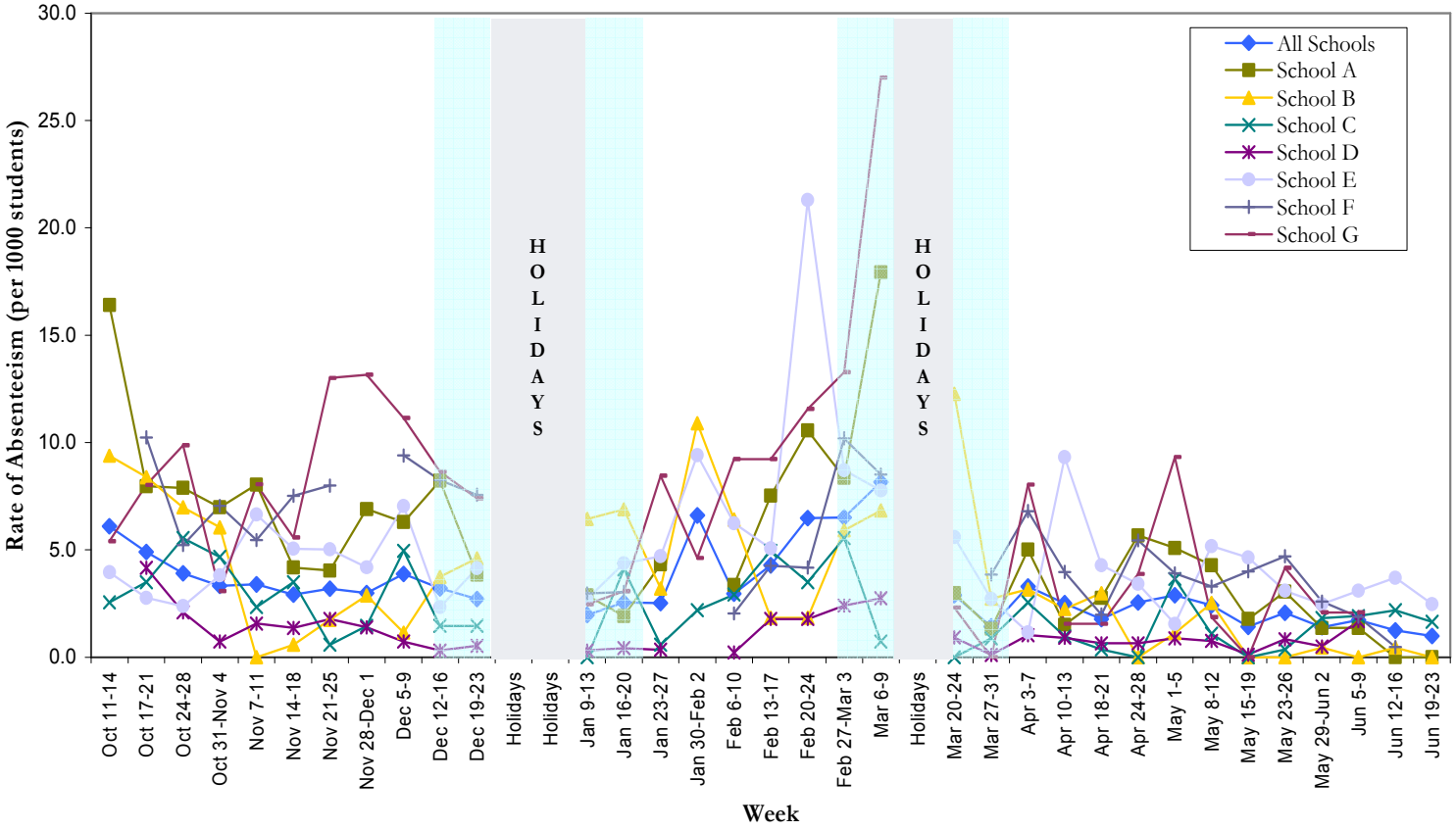
Figure 1: Rate of Absenteeism Due to Reported Respiratory Illness by School in York Region (2005-2006)



†One school did not report respiratory absenteeism.

Figure 2 represents the rate of absenteeism due to reported enteric illness, showing school absenteeism rates for seven individual pilot schools and for all schools combined. As in Figure 1, absences are significantly higher before and after school holidays with prominent increases during religious holidays.

Figure 2: Rate of Absenteeism Due to Reported Enteric Illness by School in York Region (2005-2006)

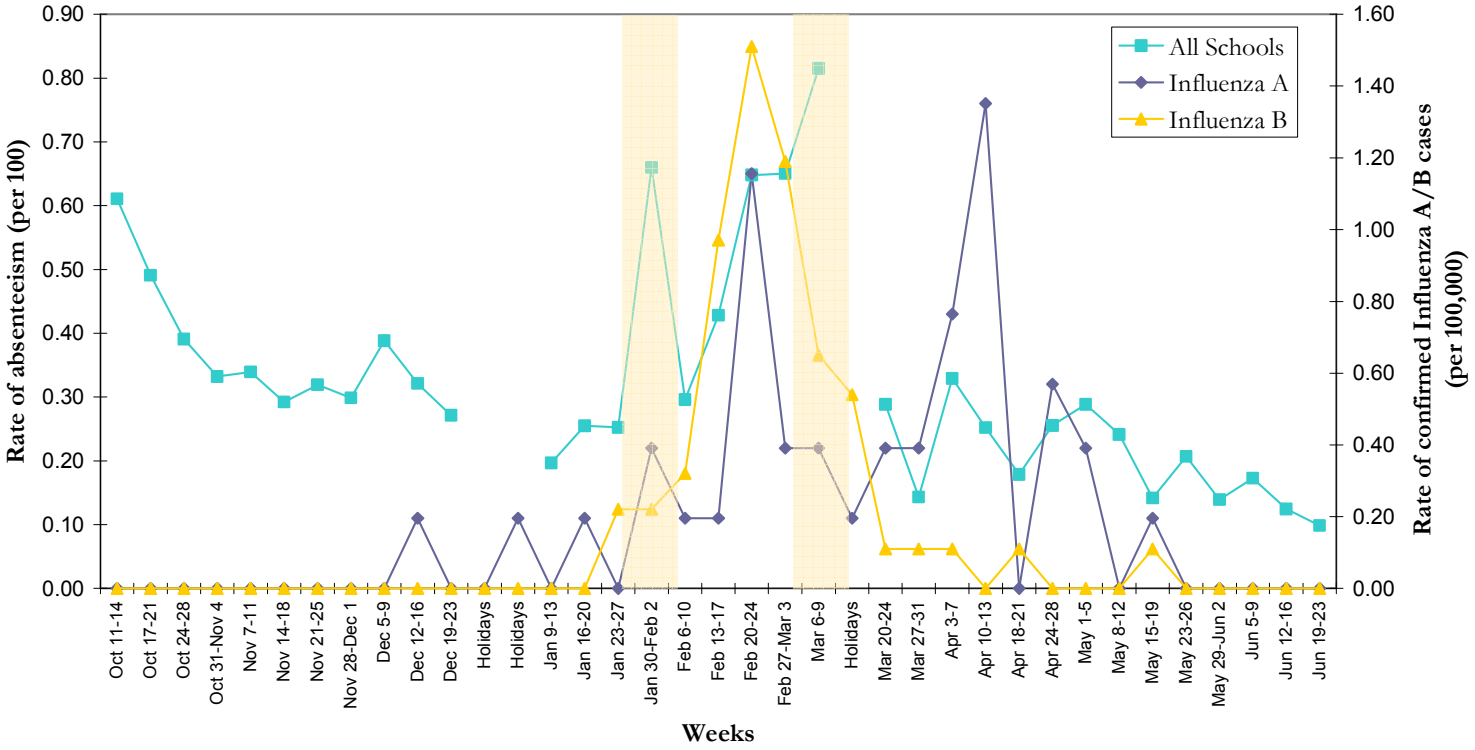


†One school did not report enteric absenteeism.

To determine whether the school surveillance system could provide timely indications of community-wide influenza, weekly data from York Region's 2005-2006 influenza season were combined with sentinel school respiratory absenteeism data for our study period (Figure 3). Graphical representations of the data showed that increases in school respiratory absenteeism coincided with community-wide increases in influenza A and B. In order to draw attention to elevated school respiratory absenteeism rates, these data were highlighted on the graph in yellow. In the first of these influenza A and B community increases (February 20 to February 24, 2006), school rates were elevated during that week as well as two weeks prior (January 30 to February 2, 2006). While secondary school absenteeism rates

due to illness were not included in the week 23 analysis due to school examination periods (January 30 to February 2, 2006), school absenteeism rates were still elevated two to three weeks prior to an increase of influenza incidence in the community. School respiratory absenteeism rates were also elevated during week 28 (March 6 to 9, 2006), one week prior to school holidays and one month prior to an increase in community increases of Influenza A.

Figure 3: Comparing School Respiratory Absenteeism Rates for All Schools to Confirmed Cases of Influenza in York Region (2005-2006)

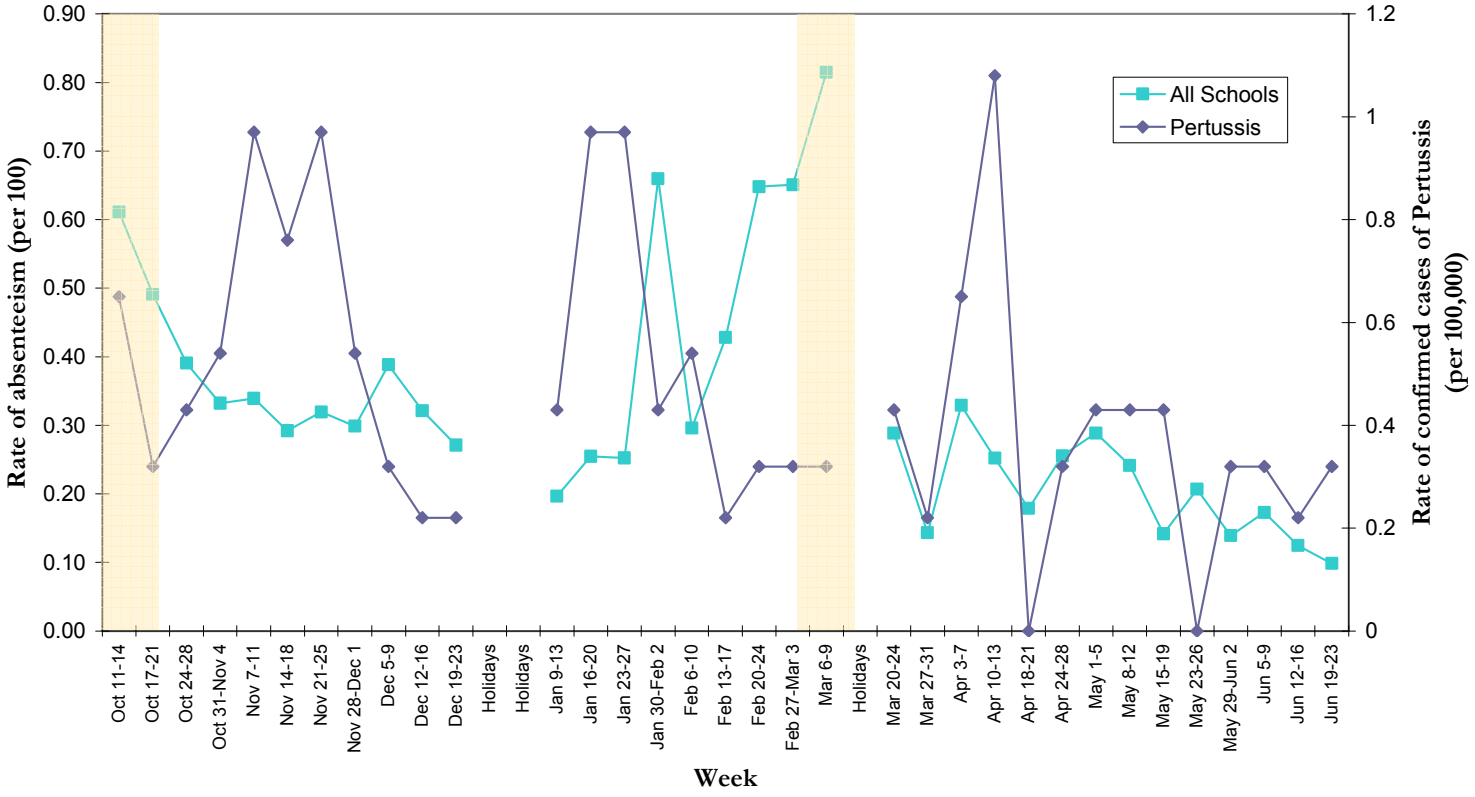


†Unexpected increases in school absenteeism rates are highlighted in yellow.

From August 1, 2005 to February 28, 2006, a significant increase in confirmed cases of pertussis was observed in York Region compared to the same period in the previous year. During this time period, a total of 23 pertussis outbreaks had also occurred, while no outbreaks had been reported during the previous 2004-05 season. Weekly data from York

Region's 2005-2006 pertussis season were combined with sentinel school surveillance weekly data for the entire school year to observe the relationship between respiratory absenteeism in schools and confirmed cases of pertussis in York Region (Figure 4). In order to draw attention to elevated school respiratory absenteeism rates, these data were highlighted on the graph in yellow.

Figure 4: Comparing School Respiratory Absenteeism Rates for All Schools to Confirmed Cases of Pertussis in York Region (2005-2006)



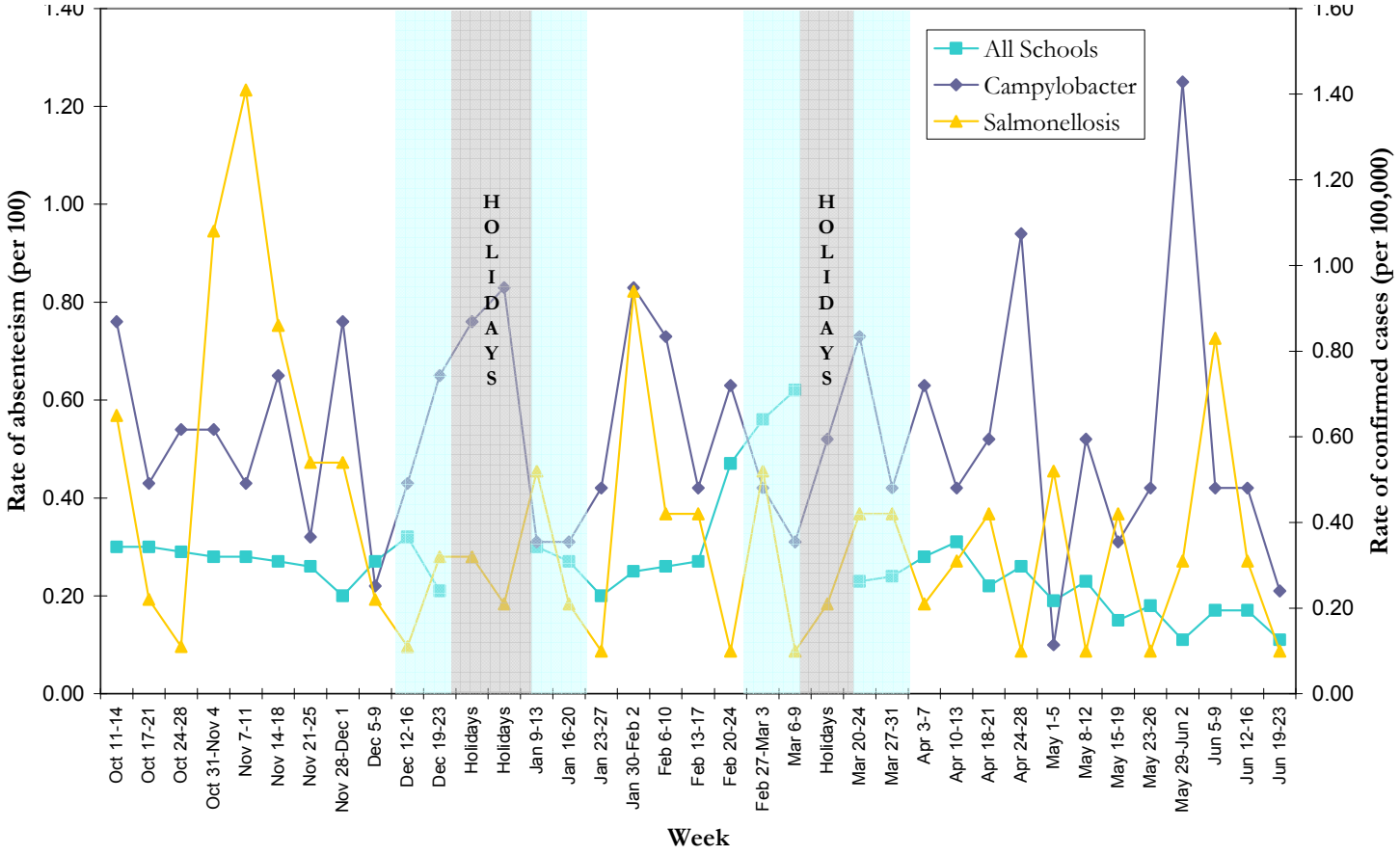
†Unexpected increases in school absenteeism rates are highlighted in yellow.

Comparing respiratory absenteeism rates to confirmed cases of pertussis in the community shows that during week 7 (October 11 to 14, 2005), increases in respiratory absenteeism rates precede an increase in confirmed cases of pertussis in York Region during the month of November (November 7 to 25, 2005). Comparing absenteeism rates to outbreaks

occurring in the community during week 7 (October 11 to 14, 2005) and up to 20 days before and after that time period (incubation period of pertussis), 7 outbreaks of pertussis had been declared in York Region. Similarly, increases in respiratory absenteeism rates precede an increase in confirmed cases of pertussis in York Region between April 10 to 13, 2006. Comparing absenteeism rates to outbreaks occurring in the community during week 33 (April 10 to 13, 2006) and up to 20 days before and after that time period (incubation period of pertussis), 3 outbreaks of pertussis had been declared in York Region. Outbreaks occurring during these peak periods (week 7 and 33) accounted for 50% of all pertussis outbreaks occurring from August 1, 2005 to February 28, 2006. Conversely, there were an elevated number of pertussis cases in the community prior to an observed increase of school absenteeism in mid-January 2006.

Campylobacter enteritis and salmonellosis are the two most common enteric illnesses circulating in York Region (York Region Health Services 2006). Rates of confirmed cases of these common enteric illnesses were compared to school enteric absenteeism rates (Figure 5). Enteric absenteeism rates in schools did not predict increases of common enteric illnesses in the community. Several outbreaks of campylobacter enteritis and salmonellosis had occurred in the community during the 2005-06 school year. However, based on trend analysis, retrospective evaluation of enteric absenteeism in schools offered limited predictive power of such outbreaks during the 2005-06 season.

Figure 5: Comparing School Enteric Absenteeism Rates for All Schools to Confirmed Cases of Campylobacter Enteritis and Salmonellosis in York Region (2005-2006)



DISCUSSION

Phase I of the York Region Sentinel School Health Monitoring Program was implemented in October 2005 to monitor and collect numerical baseline data on syndrome-specific absentee rates and to identify trends of illness in selected schools. York Region is currently the only jurisdiction in Ontario, and perhaps in Canada, that collects syndromic school absenteeism data related either to respiratory or enteric symptomology. Most other jurisdictions often collect general absenteeism data and flag illness rates above 10% without regard to the nature of the illness involved.

Monitoring school absenteeism for surveillance purposes was appealing to York Region Health Services for several reasons. Research shows that influenza consistently occurs among school-aged children, followed by spread among family members (Fujii *et al* 2002). For every 10 children who miss school for an influenza-related illness, findings suggest that 8 household members will subsequently become ill. The most common types of illnesses transmitted in school environments are those of respiratory and enteric origin. Such illnesses result in increased student and teacher absenteeism, increased healthcare expenditures, and an overall decline in quality of the learning environment (Meadows & Le Saux 2004). Syndrome-specific school absenteeism data offers population-based data that are useful for identifying illness trends within York Region schools and drawing comparisons to reportable disease occurrence in the community as well. Syndromic school surveillance may also assist in the early detection of respiratory and/or enteric illness outbreaks in both York Region schools and the community, may potentially provide insight into patterns of less severe illness occurring among children who do not seek medical attention and may offer close to real time data if reported by school representatives on a daily basis.

Efforts to ensure the collection of accurate and complete information and the use of adequate quality assurance measures within a surveillance system are essential (Public Health Agency of Canada 2006). Passive surveillance, such as the Sentinel School Health Monitoring Program, is the most common form of health surveillance which relies on the submission of standardized reporting forms to health authorities with case reports being initiated by the reporting representative (Centers for Disease Control and Prevention 2006). Disadvantages of this surveillance method include its variability and incompleteness in reporting in addition to poor adherence to case definitions and an increased workload for school representatives (Public Health Agency of Canada 2006; Losos 1996). Despite its disadvantages, passive surveillance systems are generally less costly than other reporting systems and data collection is less burdensome to health officials when compared to active surveillance methods.

During the 2005-06 school year, increases in respiratory absenteeism coincided with community-wide increases in influenza A and B. Two to three weeks prior to an increase of influenza cases in the community, an observed increase of respiratory absenteeism occurred in sentinel schools. Similarly, increases in respiratory absenteeism rates preceded an increase in confirmed cases of pertussis in York Region. Retrospectively monitoring school absenteeism rates for the 2005-06 school year therefore demonstrated that the program has potential in predicting respiratory health outcomes in the community. York Region Health Services also evaluated whether the surveillance program would have detected increases in common enteric illnesses such as campylobacter enteritis and salmonellosis or enteric outbreaks occurring in the community during the 2005-06 school year. Retrospective evaluation revealed that enteric absenteeism data may offer limited predictive power of

outbreaks and the occurrence of enteric illness in both school environments and the community. Broad definitions used to define enteric illness, or "stomach-related" symptoms, may have contributed to the discrepancy between school absenteeism rates and the occurrence of enteric illness in the community. However, additional data obtained from Phase II of the Sentinel School Health Monitoring Program will be useful in evaluating the utility of enteric absenteeism data. Retrospective analysis also showed that the median absentee rates due to illness, and more specifically due to respiratory and enteric absenteeism, did not significantly differ between elementary and secondary school populations. Although this is not consistent with the known greater susceptibility of young children to influenza and other infectious diseases, the relatively mild 2005-06 influenza season may have been a reason for the lack of discrepancy in respiratory absenteeism between the age groups (Besculides *et al* 2005). Further data obtained during Phase II of the surveillance program may be required to determine if there is a significant difference in absenteeism between elementary and secondary school populations.

Early detection of outbreaks may be achieved by improving the ability to recognize patterns indicative of a possible outbreak early in its course, such as through analytical tools that improve the predictive value of data. Automated analysis and visualization tools can lessen the need for frequent and intensive manual analysis of surveillance data. Likewise, aberration detection methods allow for the rapid assessment of changes in frequencies and rates of different health outcomes and the characterization of unusual trends or clusters. Statistical tools for pattern recognition and aberration detection may therefore be applied to screen data for patterns warranting further public health investigation and to enhance recognition of subtle or obscure outbreak patterns (Buehler 2004). York Region Health Services will

further explore the use of various analytical tools such as the Early Aberration Reporting System (EARS) of the Centers for Disease Control and Prevention (CDC) which allows for the analysis of public health surveillance data (Hutwagner *et al* 2003). This detection scheme has several properties that recommend it for use in public health surveillance. Other analytical tools to be considered for use include applying the cumulative sum (CUSUM) statistical method to identify aberrations in absenteeism and a spatial scan statistic to assess geographic clustering in absenteeism (Besculides *et al* 2005).

Surveillance is fundamental to public health decision-making and subsequent action (Losos 1996). Dealing with the aftermath of unexpected increases in absenteeism not only requires having access to reliable data but the ability to manage both the public and political anxieties that may be generated (Weinberg 2005). Public health responses to unexpected increases in absenteeism may vary and any future response measure from York Region Health Services will involve the customary public health protocol for following up on reportable diseases and may include school educational campaigns or letters sent to school principals, students or parents when applicable. Primary infection control measures would likely be highlighted in any future communication with schools as it related to elevated school absenteeism. For instance, routine hand-washing with soap and water has been cited by the World Health Organization (WHO) as being the most important hygiene measure in preventing the spread of infection; this has been reiterated by both the United States Centers for Disease Control and Prevention (CDC) and Health Canada, in reference to reducing the transmission of SARS, the influenza virus, and other infectious pathogens (Meadows & Le Saux 2004). Educational campaigns are an inexpensive intervention, which potentially can resolve increases in school absenteeism with minimal adverse effects (Ibid.). Ultimately, data

collection and analysis should be closely allied to prevention and control measures of illness (Weinberg 2005).

LIMITATIONS

Detection of increases in infectious disease events relies on good data collection, good background data for comparative purposes and sophisticated analytical tools that will provide alerts when meaningful changes from a baseline occur. Current surveillance systems are reliable in detecting significant events that are localised in time and space (e.g. point source food poisoning). However, it is much more difficult to detect diffuse and progressive events with a slow increase in incidence over time, or sporadic and widespread events wherein there may not be any obvious links among person, place or time variables (Weinberg 2005). Historical information on epidemic occurrence is therefore essential in developing an alert threshold for use in public health surveillance (Nobre & Stroup 1994). In addition to having certain pilot schools continue their participation in Phase II of the Sentinel School Health Monitoring Program, the York Region District School Board has agreed to share historical absenteeism data which will assist in York Region Health Service's surveillance effort to establish baseline absenteeism data.

During the 2005-06 school year, York Region Health Services detected moderate increases in school absenteeism associated with peak influenza and pertussis activity. But holidays limited continued school transmission of respiratory illness and complicated the interpretation of increases and our ability to detect a stronger relationship between respiratory absenteeism rates and the presence of influenza or pertussis in the community. Data was also missing due to week-ends and professional development days and therefore a large portion of the yearly

data was missing. There are several reasons why students are absent from school that are unrelated to illness. Extreme data points with a known explanation for absenteeism were therefore removed from the York Region median daily absentee rate analysis because they biased results by artificially inflating absenteeism rates. If known, data points such as snow days and time preceding and following exams would have been removed from retrospective analysis as well. The above mentioned data gaps represent the limitations of using school absenteeism data for tracking outbreaks in both the school environment and in the community (Besculides *et al* 2005). In the Japanese School Health Surveillance System, investigators supported that gaps in absenteeism data during school holidays and the possible inclusion of non-influenza virus infections also complicated the use of these data for surveillance purposes (Bravata *et al* 2004).

CONCLUSION

Surveillance is the cornerstone of an effective response to potential infectious disease threats (Weinberg 2005). The results of Phase I of the Sentinel School Health Monitoring Program (2005-06) demonstrate the potential of using syndrome-specific absenteeism data as a valid and timely method to detect increases in school absenteeism before peak disease spread is achieved in the community. Since a criticism during Phase I of the surveillance system was that the rationale for the data collection was not clear to school representatives, communication of surveillance rationale and the results of this health monitoring initiative is essential for continued success. To improve its surveillance efforts, York Region Health Services will maintain regular communication with schools offering monthly updates and mid-term focus group discussions with participating schools during the 2006-07 school year. Health Services also recognizes that manual reporting of school absenteeism data can be

cumbersome for reporting schools and has therefore engaged in discussions with the school board Information Technology department to improve reporting efficiency. In addition, York Region Health Services is considering the implementation of multiple, complementary systems such as emergency department and pharmacy over-the-counter sales surveillance, which may increase outbreak detection performance. Findings from one data stream may support or contradict findings from another, providing additional evidence as to whether a syndromic signal requires a public health response (Besculides *et al* 2005).

Effective syndromic school surveillance programs inform both schools and their communities of illness trends. These programs should also serve to inform appropriate public health responses to unexpected increases in school absenteeism. Taking lessons learned from Phase I of the Sentinel School Health Monitoring Program, York Region Health Services, in collaboration with York Region District School Board, will continue to strive to improve public health surveillance systems and the overall health of the community.

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APPENDIX A: GLOSSARY OF TERMS

Average	Determined by adding a set of values and then dividing that set by the quantity of values (For example, the average in this set of numbers {4, 6, 2} is 4 (12 ÷ 3). Also known as the "mean".[4]
Campylobacter enteritis	An infection caused by Gram-negative bacteria.[1]
Cryptosporidiosis	A parasitic infection caused by the Genus *Cryptosporidium*.[1]
Cumulative Sum (CUSUM)	This statistical technique allows for rapid measurement of change from expected values based on historical data.[2]
Enteric Absenteeism	For the purposes of this program, refers to absenteeism due to illness and characterized by the following features: diarrhoea; vomiting; and/or stomach cramps.[3]
Median	Determined by arranging numbers in order and then selecting the one in the middle (For example, the median in this set of numbers {1, 8, 17, 35, 102} is 17.[4]
Passive Surveillance	The most common form of health surveillance which relies on the submission of standardized reporting forms to health authorities with case reports being initiated by the reporting representative.[5]
Pertussis	An acute bacterial infection of the respiratory tract caused by the bacterium *Bordetella pertussis*. Also known as "whooping cough".[1]
P-value (probability)	The probability that an observed difference between groups occurred by chance alone. A result is conventionally regarded as 'statistically significant' if the likelihood that it is due to chance alone is less than five times out of 100 ($p < 0.05$).[4] Also, refer to "Statistically Significant" below.
Rate	In epidemiology, a rate is an expression of the frequency with which an event occurs in a defined population in a specified period of time.[4]
Reportable Disease	A disease specified as reportable by the Ontario Ministry of Health and Long-Term Care (MOHLTC); by law, the disease must be reported to the Medical Officer of Health of the Ontario health unit in which the professional services are provided.[6]
Respiratory Absenteeism	For the purposes of this program, refers to absenteeism due to illness characterized by the following features: persistent cough, either dry or productive; either a runny nose or nasal congestion; and/or sore throat or hoarseness.[3]
Salmonellosis	An infection caused by *Salmonella* bacteria.[1]

Sentinel Surveillance	Surveillance based on selected population samples chosen to represent the relevant health experience of particular groups. This surveillance method uses a well-defined population, such as schools, for the routine collection of data that may be useful in the early detection and monitoring of communicable diseases.[4]
Spatial Scan Statistic	Statistical method used in disease surveillance for the detection of disease clusters.[7]
Statistically Significant	In statistics, a result is called significant if it is unlikely to have occurred by chance. A statistically significant difference means there is statistical evidence that there is a difference but does not mean the difference is necessarily large or important.[8] Also, refer to "P-value" above.
Surveillance	Involves the systematic and ongoing collection, analysis and dissemination of health data in a timely manner to those responsible for taking action.[4]
Syndrome	A group of signs and symptoms that occur together and characterize a disease.[9]
Syndromic Surveillance	Applies to surveillance using syndromic data; precedes diagnosis and signal a sufficient probability of a case or an outbreak to warrant further public health response.[10]

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APPENDIX B: YORK REGION DISTRICT SCHOOL BOARD 2005-2006 CALENDAR

Your York Region District School Board 2005-2006 Learning Calendar

Learning – like life – requires planning. This calendar has been created to help you plan your family holidays, medical and dental appointments around your child's learning. The most important days – the ones unmarked (excluding weekends) – are the ones we expect students to attend school. For your information, we have also listed professional activity days, holidays and significant faith days.

SEPTEMBER 2005

S	M	T	W	T	F	S
				1	2	3
4	H	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	A	24
25	26	27	28	29	30	

OCTOBER 2005

S	M	T	W	T	F	S
						1
2	3	(4)	(5)	6	7	8
9	H	11	12	(13)	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

NOVEMBER 2005

S	M	T	W	T	F	S
		(1)	2	(3)	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

DECEMBER 2005

S	M	T	W	T	F	S
				1	E	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
(25)	H	H	H	H	H	31

JANUARY 2006

S	M	T	W	T	F	S
1	H	H	H	H	H	(7)
8	9	(10)	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
(29)	30	31				

FEBRUARY 2006

S	M	T	W	T	F	S
			1	2	S	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28				

MARCH 2006

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	H	11
12	H	H	H	H	H	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

APRIL 2006

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	(13)	H	15
16	H	18	19	20	(21)	22
23	24	25	26	27	28	29
30						

MAY 2006

S	M	T	W	T	F	S
	1	2	3	4	E	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	H	23	24	25	26	27
28	29	30	31			

JUNE 2006

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	S	A	

York Region DISTRICT SCHOOL BOARD

- H School Holiday
- E Elementary P.A. Day
- S Secondary P.A. Day
- A P.A. Day for All Schools
- ○ Significant Faith Day
- □ Professional Training Day

York Region District School Board 2005-2006 School Year Calendar

FIRST DAY OF CLASSES
Tuesday, September 6, 2005

LAST DAY OF CLASSES
Secondary: Wednesday, June 28, 2006
Elementary: Thursday, June 29, 2006

SCHOOL HOLIDAYS

Labour Day	Monday, September 5, 2005
Thanksgiving Day	Monday, October 10, 2005
Christmas/Winter Break	Monday, December 26, 2005 to Friday, January 6, 2006 inclusive
Mid-Winter Break	Friday, March 10 to Friday, March 17, 2006 inclusive
Good Friday	Friday, April 14, 2006
Easter Monday	Monday, April 17, 2006
Victoria Day	Monday, May 22, 2006

PROFESSIONAL ACTIVITY DAYS

Elementary: September 23, December 2, May 5, June 30

Secondary: September 23, February 3, June 29 and 30

Professional Training Days: Fri., Dec. 2 (secondary) and Fri., Feb. 3 (elementary) There will be no school on these days.

SIGNIFICANT FAITH DAYS 2005 – 2006

The dates below are some faith holidays of particular significance to members of the major faith communities in our Board. We value the faith diversity in our schools. Therefore, events such as conferences, meetings, workshops, other professional events, co-curricular activities, and exams/tests will not be scheduled on these dates:

October 4-5, 2005	Rosh Hashanah**
October 13, 2005	Yom Kippur**
November 1, 2005	Diwali*
November 3, 2005	Eid-ul-Fitr*
December 25, 2005	Christmas (Western)
January 7, 2006	Christmas (Eastern)
January 10, 2006	Eid-ul-Adha*
January 29, 2006	Lunar New Year
April 13, 2006	Baisakhi
April 13, 2006	Passover/Pesah
April 14, 2006	Good Friday (Western)
April 21, 2006	Holy Friday (Eastern)
April 21, 2006	Ridvan

* Tentative dates subject to the sighting of the moon each month.
** All Jewish Days commence on the preceding evening at sunset.

Ultimately, parents are responsible for deciding whether to send their child to school. Should bad weather result in the cancellation of buses, the following radio stations will be notified:

AM640	640 AM	CJCL	590 AM	CHAY	93.1 FM
NEWS	680 AM	CHIN	1540 AM	CJEZ	97.3 FM
CJBC	860 AM	CHUM	104.5 FM	CHFI	98.1 FM
CFRB	1010 AM	CKDX	88.5 FM	CBC	99.1 FM
CHUM	1050 AM	JACK	92.5 FM	CKFM	99.9 FM

York Region District School Board
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(905) 727-3141, 895-7216, 722-3201, (416) 969-8131
Automated: (905) 727-0022, 895-7227, 722-6255, (416) 969-7170
Facsimile: (905) 727-1931
Website: www.yrdsb.edu.on.ca

Bill Hogarth
Director of Education

York Region DISTRICT SCHOOL BOARD

Bill Crothers
Chair of the Board

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