

**York Region
Infectious Disease Surveillance Unit (IDSU)**

Introduction

The Infectious Diseases Surveillance Unit was formed within the Infectious Diseases Control Division, York Region Health Services, in the summer of 2006. Encompassing many existing and new initiatives, the IDSU was tasked with coordinating surveillance and school immunization initiatives under the auspices of controlling infectious disease within the Region.

The IDSU is staffed by two epidemiologists, one infectious disease coordinator, one administrative secretary, ten full-time clerical staff and one part-time clerical staff person. A Manager oversees all activities related to the IDSU, under the Director of the Infectious Diseases Control Division.

What is surveillance?

Surveillance is the systematic collection, analysis, results, interpretation and dissemination of information to facilitate public health action.

Surveillance activities of the IDSU include;

- Monitoring disease trends
- Monitoring progress towards disease control objectives
- Estimating the burden of health issues
- Detecting outbreaks of infectious disease
- Evaluating interventions and preventive programs
- Identifying research needs

Goals of the IDSU

1. To collect and analyze reportable disease information for York Region residents to support the early detection of outbreaks and/or unusual incidence of disease in the Region.
2. To provide accurate and timely reportable disease information to internal and external stakeholders.
3. To continue to expand monitoring and enforcement of immunization requirements in York Region schools and daycares.
4. To investigate and establish innovative, novel methodologies for infectious disease surveillance in York Region
5. To design and implement timely, effective quality assurance practices within the Infectious Disease Surveillance Unit and in support of Infectious Diseases Control Division activities.
6. To contribute to and examine the body of research encompassing infectious disease surveillance.
7. To establish and maintain productive working relationships with internal and external partners and increase presence in the community.
8. To support Infectious Diseases Control Division operational needs and ultimately facilitate and influence strategic directions and decision-making within the Infectious Diseases Control Division, York Region and the Province.

Role of the IDSU

Roles and responsibilities among IDSU staff have been divided between 3 major functions: entry of reportable disease information, entry of immunization information and epidemiological support for reportable disease, immunization and surveillance initiatives.

Immunization Program

The Immunization program within the IDSU is tasked with planning, organizing and enforcing the requirements under the *Immunization of School Pupils Act*, as well as the *Day Nurseries Act*. These include collecting current immunization information for all children and young adults attending York Region schools and daycares to ensure the protection of the community against vaccine preventable diseases. In cases where students are lacking required vaccinations, request for current immunization information are forwarded to parents to ensure that all vaccination information is current and complete.

The process involves merging current school maintained enrolment data, provided by York Region schools, with existing immunization data by the IDSU. The data is then cleaned to ensure that all students are identified, duplicates are eliminated and that any and all immunization information is intact. Coverage reports are produced which identify students in each school that have missing and/or incomplete immunization records. From this information, questionnaires tailored to each individual student are developed requesting the necessary information to ensure compliance with the *Immunization of School Pupils Act*, and forwarded to the parents of the student. Parents are afforded approximately four weeks to complete and return the immunization questionnaire.

IDSU support staff are then tasked with updating existing immunization data using the returned questionnaires. Additional reports are generated once all the questionnaires are entered to identify those students who are still missing complete immunization information. Unless a medical contradiction and/or conscientious objection has been filed with York Region Health Services (YRHS), any student with incomplete immunization information is deemed to be in violation of the requirements of the *Immunization of School Pupils Act*. Suspension orders are then generated explaining that if current and complete immunization information is not provided to YRHS by an established deadline (typically 4 weeks), students will be suspended from attending school until such time as complete immunization information is provided.

Entry of immunization questionnaires continues indefinitely as they are submitted to YRHS. Typically this involves year round entry of information. In the 2005/06 school year, YRHS clerical staff generated approximately 47,000 questionnaires tailored to each individual student. Subsequently, just under 4,000 suspension orders were produced and distributed.

Reportable Disease Program

Physicians, laboratories, hospitals, long term care facilities and schools are mandated to report infectious disease information to the local Medical Officer of Health (MOH), as legislated through Ontario Regulations 559/91 and amendments under the *Health Protection and Promotion Act*. A list of these reportable infectious diseases can be found in Appendix A.

The IDSU team is tasked with receiving, processing, prioritizing, entering and distributing the above mentioned reportable infectious disease notifications. This includes maintaining the reportable disease information system (iPHIS) used to manage and monitor infectious disease cases and reporting these cases to the Ministry of Health and Long Term Care (MOHLTC), as required under the *Health Protection and Promotion Act*.

The process involves scanning daily reports of reportable disease notifications, typically lab results, and entering the information into the provincial integrated public health information management system (iPHIS). iPHIS is both a case/outbreak management tool and a reporting software between Public Health Units and the MOHLTC.

The IDSU is also responsible for informing relevant external agencies such as, Community Care Access Centres (CCAC), Emergency Medical Services (EMS) and hospitals of current outbreaks in local long term care facilities and retirement homes. These notifications are sent out as needed to indicate when an outbreak has opened and closed.

In addition, the IDSU distributes two weekly reports at the end of each week. The first report, called the AMOH Weekly Report, is sent to relevant internal staff within York Region Health Services. The report summarizes any current high risk cases that are being followed up by staff on the Communicable Disease Team (CD Team). High risks reportable diseases are indicated in Appendix A by a ★ and require reporting to the local Medical Officer of Health within 24 hours.

The Weekly Outbreak Report is also sent out every Friday which contains a summary of current infectious disease outbreaks occurring in York Region. The summary includes location, number ill, causative agent (if known), symptoms of those involved and more. Internal York Region staff receive the full report and a modified version is sent to our external partners, including local long term care homes, hospitals, EMS, Fire, CCAC, MOHLTC and other relevant organizations. The modified report excludes outbreaks occurring outside LTCH, retirement homes and hospitals, such as those occurring in daycare facilities.

One of the goals of the IDSU is to establish and maintain working relationships with external partners. Current activities to accomplish this goal include representation at monthly acute care infection control meetings. As well, the Infectious Disease Coordinator acts as the central link between external callers, (physicians, schools, agencies etc) and staff on the IDSU and CD Team.

Epidemiology and Surveillance Initiatives

Two fulltime epidemiologists are part of the IDSU team and provide support for the Infectious Disease Control Division. In addition to ensuring data quality of iPHIS data, fulfilling relevant data requests, supporting outbreak investigations and producing monthly reportable disease summary reports, several surveillance projects have been initiated. These projects, aimed at the early detection and monitoring of infectious diseases within York Region, include;

- a. Sentinel School Surveillance Project designed to monitor and collect baseline data on school absentee rates due to respiratory and enteric (intestinal) illnesses.
- b. Antibiotic Resistant Organism (ARO) Surveillance Project involves the collection of baseline information on the incidence of three antibiotic resistant organisms: Methicillin Resistant *Staphylococcus Aureus* (MRSA), Vancomycin Resistant Enterococci (VRE), and Extended Spectrum Beta-Lactamase producing bacteria (ESBL) in various health care facilities in York Region.
- c. Alternative Surveillance Alert Project (ASAP) where the IDSU has partnered with the Public Health Agency of Canada (PHAC) to participate in a pilot project to monitor over-the-counter sales trends of gastrointestinal (GI) products sold in 5 major pharmacies around the province.

Who we are

Manager

Jason Garay, BSc, BASc, MHSc

Association of Public Health Epidemiologist of Ontario President - 2006/2007

- Consultation and collaboration with staff and stakeholders
- Planning, prioritization and coordination of IDSU activities
- IDSU staff assignments and allocation
- Administrative duties including budget and recruitment
- Performance appraisals and learning plans

Administrative Clerk Secretary

- Provides administrative support to the Manager of the IDSU and staff
- Assists with the school immunization monitoring and enforcement program

Epidemiologists

Denis Heng & Ruth Diaz-Chambers

- Provide epidemiological support to the IDC division via ongoing cleaning, analysis and reporting of Regional Infectious Disease and other relevant data.
- Research new surveillance methodologies; support decision-making and Regional responses to infectious diseases.
- Provide training and support for iPHIS.

Infectious Disease Coordinator

Sara Chhetry

- Coordinates all incoming reportable disease information
- Maintains internal and external communications
- Provides staff training and support for iPHIS.

Administrative Clerks Intermediate

- Coordinate and undertake all data entry related to reportable diseases in York Region; assign case managers to investigations as appropriate
- Coordinate and administer the school immunization monitoring and enforcement program, including IRIS data entry and follow-up.
- Support the IDSU and the IDC division as required.

Accomplishments to Date

Immunization Program

- Established immunization support in both Newmarket and Markham offices, to ensure both the northern and southern parts of the region were sufficiently serviced.
- Activities related to the initiation of a private school immunization monitoring program.
- Investigation into initiation of a daycare immunization monitoring program.
- Immunization information from school-based Hepatitis B clinics entered into IRIS within 4 weeks of completion of clinics.
- Completed a review of immunization coverage rates in York Region Public & Catholic high schools.

Reportable Disease Program

- Trained new staff in iPHIS
- Established case manager support teams in Markham and Newmarket
- Completed data cleaning activities and audit checks in iPHIS and RDIS for all enteric diseases, respiratory diseases, most STI's.
- Creation and circulation of monthly reportable disease reports, summarizing current trends of disease in York Region, and the province.

Epidemiology & Surveillance

- Final report of Phase 1 of the Sentinel School Surveillance Initiative was completed. Phase 2 has begun with an increase in the number of schools participating.
- ARO draft report for the 2005/2006 surveillance data has been completed.

Looking Forward

- Release of an annual IDSU report, which would incorporate York Region disease rates, morbidity and mortality statistics, trend analysis, immunization statistics (school coverage) and sections dedicated to milestone achievements and upcoming initiatives.
- 2 focused reports that annually would include an in depth review of selected diseases or topics.
- Development of an IDSU policy and procedure manual.
- Full implementation of private school immunization program.
- Expansion of the immunization program to daycares facilities.

IDSU Staff Contact Information

Regional Municipality of York
Infectious Diseases Control Division
P.O. Box 147, 17250 Yonge St.
Newmarket, ON
L3Y 6Z1

Reportable Disease Phone number: (905) 895-4511 ext. 3507
Reportable Disease Fax number: (905) 898-5213
Reportable Disease On-call number: (905) 953-6478
General Infectious Disease number: 905-895-4511 ext. 3500

Office locations:

York Region Newmarket Health Centre
194 Eagle Street
Newmarket, ON
L3Y 1J6

Markham Office
4261 Hwy 7, E., Suites B6-9
Markham, ON
L3R 9W6

Appendix A

List of Reportable Diseases

The following specified Reportable Disease are to be reported to the local Medical officer of Health (Ontario Regulation 559/91 and amendments under the Health Protection and Promotion Act).

<ul style="list-style-type: none"> Acquired Immunodeficiency Syndrome (AIDS) Amebiasis ★ Anthrax ★ Botulism ★ Brucellosis <ul style="list-style-type: none"> Campylobacter enteritis Chancroid Chickenpox (Varicella) Chlamydia trachomatis infections ★ Cholera ★ <i>Clostridium difficile</i> associated disease (CDAD) outbreaks and outbreak associated cases in public hospitals <ul style="list-style-type: none"> Cryptosporidiosis Cyclosporiasis Cytomegalovirus infection, congenital ★ Diphtheria <ul style="list-style-type: none"> Encephalitis, including - ★ <ul style="list-style-type: none"> i. Primary, viral ii. Post-infectious iii. Vaccine-related iv. Subacute sclerosing panencephalitis v. Unspecified ★ Food Poisoning, all causes ★ Gastroenteritis, institutional outbreaks <ul style="list-style-type: none"> Giardiasis, except asymptomatic cases Gonorrhoea ★ Haemophilus influenzae b disease, invasive ★ Hantavirus Pulmonary Syndrome ★ Hemorrhagic fevers, including - <ul style="list-style-type: none"> i. Ebola virus disease ii. Lassa Fever iii. Marburg virus disease iv. Other viral causes Hepatitis, viral - ★ <ul style="list-style-type: none"> i. Hepatitis A ii. Hepatitis B iii. Hepatitis C iv. Hepatitis D (Delta) Herpes, neonatal Influenza ★ Legionellosis <ul style="list-style-type: none"> Leprosy ★ Listeriosis <ul style="list-style-type: none"> Lyme Disease Malaria 	<ul style="list-style-type: none"> ★ Measles Meningitis, acute - ★ <ul style="list-style-type: none"> i. Bacterial ii. viral iii. other ★ Meningococcal disease, invasive ★ Mumps <ul style="list-style-type: none"> Ophthalmia neonatorum ★ Paratyphoid Fever <ul style="list-style-type: none"> Pertussis (Whooping Cough) ★ Plague ★ Poliomyelitis, acute <ul style="list-style-type: none"> Psittacosis/Ornithosis ★ Q Fever ★ Rabies ★ Respiratory infection, institutional outbreaks <ul style="list-style-type: none"> Rubella Rubella, congenital syndrome Salmonellosis ★ Severe Acute Respiratory Syndrome (SARS) ★ Shigellosis ★ Smallpox ★ Streptococcal infections, Group A invasive <ul style="list-style-type: none"> Streptococcal infections, Group B neonatal Streptococcus pneumoniae, invasive Syphilis Tetanus ★ Transmissible Spongiform Encephalopathy (TSE) <ul style="list-style-type: none"> i. Creutzfeldt-Jakob Disease (CJD) <ul style="list-style-type: none"> - Classic Creutzfeldt-Jakob Disease - New Variant Creutzfeldt-Jakob Disease ii. Gerstmann-Straussler-Scheinker Syndrome (GSS) iii. Fatal Familial Insomnia (FFI) iv. Kuru <ul style="list-style-type: none"> Trichinosis Tuberculosis ★ Tularemia ★ Typhoid Fever ★ Verotoxin-producing E.coli indicator conditions, including Haemolytic Uraemic Syndrome (HUS) ★ West Nile Virus, including <ul style="list-style-type: none"> i. West Nile Fever ii. West Nile neurological manifestations ★ Yellow Fever <ul style="list-style-type: none"> Yersiniosis
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