

VI. Communicable Disease Control and Sexual Health

1) Vaccine Preventable Diseases

Goals:

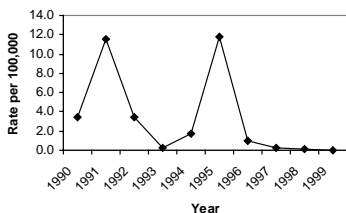
- ▶ To reduce illness and death caused by vaccine-preventable disease (VPD).
- ▶ To prevent the spread of vaccine-preventable diseases and promote immunization.

Selected Health Status Indicators

Vaccine Coverage in School-Age Children: In the 1999/2000 school year, student immunization records were reviewed in 30% of the schools (300) in Toronto. In these schools, 63% of students had records showing adequate immunization at the beginning of the program; this increased to 98% by the time the program was completed for the school year.

VPD Incidence Rates: In 1995, there was an outbreak of red measles. Toronto had 286 cases reported (11.8 per 100,000). In 1996 Ontario increased the required number of doses of red measles vaccine from one to two doses. In that year public health carried out a measles vaccination program in all schools to bring students up to the new requirement. Since this change was implemented, the measles rate in Toronto has remained at or below one case per 100,000 population (from 1996 to 1999; Figure 11).

Figure 11: Crude Incidence Rate* of Measles for Toronto, 1990 – 1999



* Rates per 100,000 population.

Data Source: Toronto Public Health and the Ministry of Health, PHPDB

Immunization against pertussis (whooping cough) in school-age children currently is not required by law. During the period of 1990 to 1999, incidence rates ranged between 3.6 and 7.0 cases per 100,000 people. These figures are underestimated, as reporting of non-lab-diagnosed pertussis is poor. The great majority of reported cases occur in children aged 14 and under. Toronto's rates are higher than the target rate set by the Ontario Ministry of Health of 2.5 cases per 100,000 people.

Influenza: Influenza season occurs yearly between October and April. In the 1999/2000 season, we investigated and managed 57 confirmed influenza outbreaks in long-term care facilities (LTCFs) involving 1,561 cases and over 23,000 people. Median influenza immunization rates in LTCFs rose from approximately 93% to 95% among residents and from less than 30% to 73% among staff between 1996 and the 2000/2001 influenza season.

Selected Activities

Immunization of School Pupils: We continue to review immunization records and do the appropriate follow-up of elementary and secondary students to ensure that they have up-to-date immunization. This is done under the requirements of The Immunization of School Pupils Act. In the 2000/2001 school year, we are reviewing and following up on student immunization records in 50% of Toronto schools (or 500). We plan to expand the program to cover all 1,000 Toronto schools by the 2002/2003 school year.

Influenza Immunization: We completed the first "Community Flu Immunization" Program by holding 95 flu-shot clinics in community settings. We will evaluate the program for year 2000 and implement a revised program in the fall of 2001. We also offer flu shots and other immunizations to clients who are homeless or under-housed, and we continue to expand this program to new venues. To prevent illness and death, we promote flu shots for vulnerable populations including those who live or work in LTCFs.

Vaccine Storage and Handling Inspections: To ensure the public receives effective vaccines, we provide on-site inspection of doctors' offices to ensure proper storage and handling, in compliance with Ontario Ministry of Health requirements.

Adverse Vaccine Reactions: We investigate all adverse vaccine reactions reported to TPH.

VPD Health Promotion: We continue our work with the public, school community and health professionals to ensure adults and children are properly immunized and able to make informed choices about vaccines.

2) Tuberculosis

Goals:

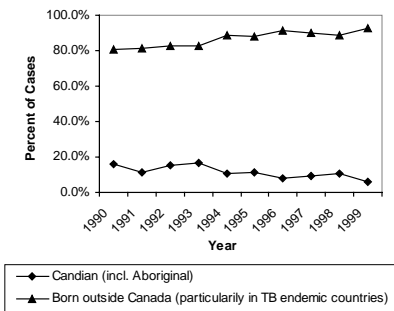
- ▶ To reduce the incidence of tuberculosis.
- ▶ To provide an accessible and equitable tuberculosis (TB) control program.

Selected Health Status Indicators

The World Context: One-third of the world's population is infected with latent TB. Toronto has between 380 and 500 TB cases a year, which is a rate three times higher than the rest of Canada. Between 1991 and 1996, TB rates in Toronto were more than double the rate for Ontario, representing more than 57% of reported TB in the province. (4)

High Risk Groups: In Toronto, 87% of new TB cases occur in those who were born outside of Canada (in particular in TB endemic countries; Figure 12), and the majority of these are manifested in the first five years after arrival. Thirty-six percent of newcomers to Canada are destined for Toronto and more than 10,000 refugees arrive in the city each year. Other high-risk groups include the homeless, the under-housed and the HIV-positive. In 1996, the Shelter Pilot (TB Testing) Project found that 45% of shelter clients and 24% of shelter staff who completed the skin test were positive for latent TB infection.

Figure 12: Distribution of Active Tuberculosis Cases by Origin, Toronto, 1990 – 1999



* Percent of cases.
Data Source: Toronto Public Health

Tuberculosis Rates: Active TB rates in Toronto were stable from 1990 to 1997, ranging between 18.2 and 20.4 per 100,000. Since 1997, rates have decreased to 15.2 per 100,000 in 1999. As a comparison, in 1998 the TB rate was 5.9 per 100,000 in Canada and 16.7 per 100,000 in Toronto. In 1999 there were 384 new cases

of TB plus an additional 20 cases who were diagnosed elsewhere and then moved to Toronto during treatment. TB cases require follow-up for 6 months to 2 years.

Drug Resistant TB: In 1999, 17.3% of active cases were resistant to at least one antibiotic. Multiple Drug Resistant (MDR) TB is resistant to isoniazid (INH) and rifampin (RIF), the two main antibiotics used to treat TB. MDR TB has increased over the 1990s in Toronto, and ranged from 0.2% of all TB cases to a high of 3%. Between 1990 and 1998, 67.6% of drug-resistant TB cases in Ontario were in Toronto. (25)

Drug-resistant TB treatment takes twice as long and is expensive and difficult. In addition, people with drug-resistant TB are usually contagious for a longer period of time.

Selected Activities

Case Management and Contact Follow-up: The key strategies to reduce the incidence of TB and to prevent its spread include case management and contact follow-up.

In 1993, The World Bank described Directly Observed Therapy (DOT) as one of the most cost-effective health strategies. DOT means that a health care worker directly observes and supervises clients taking their TB medication. At the present time we are able to provide DOT to only 30% of TB cases in Toronto. Priority for DOT is given to those with drug resistant TB, children, patients with HIV and the homeless.

On average we investigate 10.7 contacts per case. In 2000 this meant more than 3,800 contacts of active TB were followed-up. Contact follow-up involves notifying individuals that they have been exposed to TB and advising them of appropriate actions they should take. Contacts who test positive are examined further. Once active TB is ruled out, they are encouraged to be treated for latent TB. If a case of TB is identified in a group setting, we do TB testing of the contacts. For example, if a case is identified in a school, usually over 100 contacts are tested, and if a case is found in an emergency shelter, the number of potential contacts may increase to 800 or more.

Prevention: During 2000 we followed close to 1,500 newcomers who had been placed on surveillance for inactive TB by Citizenship and Immigration Canada. We also continue to provide education, health promotion, advocacy and consultation to the public regarding TB issues.

3) STDs and HIV

Goals:

- ▶ To decrease the incidence of, and complications from, all STDs, including HIV/AIDS.
- ▶ To ensure effective and accessible sexual health and STD/HIV services.

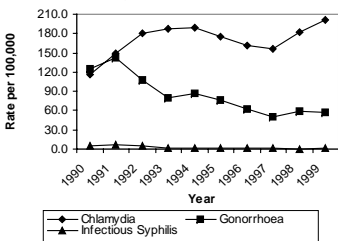
Selected Health Status Indicators

In 1999, TPH received a total of 7,095 reports of sexually transmitted disease cases.

Chlamydia: Since 1990, incidence rates for chlamydia decreased slightly to 155 per 100,000 in 1997 and then increased to 202 per 100,000 in 1999 (Figure 13). Rates are higher in females, particularly the 15 to 19 and 20 to 24 year age groups with rates of almost 1,500 per 100,000 in 1999. The highest rates for men are in the 20 to 24 year-olds (643 per 100,000 in 1999). Rates in Toronto are higher than in Ontario as a whole.

Gonorrhoea: Gonorrhoea incidence rates have steadily decreased from 1990 to 1999 (58 per 100,000; Figure 13). The overall rates are higher in males compared to females. The highest rate for females was among the 15 to 19 year-olds (295 per 100,000 in 1999) and the highest rate for males was among 20 to 24 year-olds (251 per 100,000). Toronto has approximately 63% of all the gonorrhoea cases reported in Ontario.

Figure 13: Crude Incidence Rates* of Selected STD Infections for Toronto, 1990 – 1999



* Rates per 100,000 population.

Data Source: Toronto Public Health and the Ministry of Health, PHPDB

Infectious Syphilis: Over the last 10 years infectious syphilis rates have steadily decreased in Toronto from 5.7 per 100,000 in 1990 to 0.9 per 100,000 in 1999 (Figure 13). The rates have been 1.0 per 100,000 or less over the last three years (1997 – 1999).

HIV: The rate of HIV-positive tests has steadily declined for males from 1990 – 1999, while no clear pattern has emerged for females. This decrease has been less in Toronto than for Ontario. In 1999, 58.6% of first-time

positive tests in Ontario were found in Toronto. It is estimated that there are currently over 13,000 people living with HIV in the city, and Toronto has seen nearly 3,000 deaths from AIDS since 1987. In 1996, HIV death rates were higher in Toronto compared to Canada. (8)

In Toronto, the proportion of new cases contributed by the men having sex with men (MSM) exposure category has remained relatively constant. However, according to researchers at the University of Toronto for January to June 2000 there were 192 new positive HIV tests among the MSM risk group in Toronto – 16% higher than expected based on the number of positive tests in 1999. (26) (A corresponding increase in the number of MSM who were tested meant that in the first half of 2000 5.84% of MSM who were tested for HIV were found to be positive compared to 5.76% in 1999. (26))

Toronto receives large numbers of immigrants and refugees from HIV-endemic areas. It is estimated that 15 to 25% of new infections in Ontario occur among those from HIV-endemic regions.

Drug Use: The number of injection drug users in Toronto is estimated at 15,000. Toronto accounts for half of all AIDS/HIV cases among Ontario injection drug users.

Health Disparities: STD rates are two-to-four times higher in the lowest-income areas in the city compared to the highest.

Selected Activities

STD Program: We follow up on all reported STD cases in Toronto to ensure that each client has received appropriate treatment and to provide counselling, education and referrals as necessary. We offer to notify and counsel all named partners to ensure they also receive appropriate testing and treatment. We provide education to health care professionals.

AIDS and Sexual Health Infoline: Information, counselling and referrals are provided in 19 languages on STD/HIV/AIDS, hepatitis, injection drug use and sexual health issues. We are in the process of expanding our language capabilities and hours of operation during days, evenings and weekends.

The Works: We provide this communicable disease prevention program for drug users and sex-trade workers through a fixed site, mobile service and a number of community agencies. Services offered include needle exchange; condom distribution; testing for HIV, hepatitis B and C, syphilis and TB; hepatitis B and flu vaccines; methadone maintenance; food distribution, counselling and referrals to drug treatment, housing and a variety of other health and social services.

See also [Sexual Health](#).

4) Sexual Health

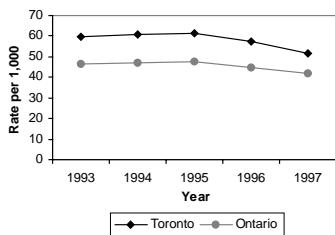
Goals:

- ▶ To decrease the incidence of, and complications from, all STDs including HIV/AIDS.
- ▶ To decrease the incidence of unintended pregnancies.
- ▶ To ensure effective and accessible sexual health and STD services.

Selected Health Status Indicators

Teen Pregnancy Rate: The teen pregnancy rates were consistently higher in Toronto than in Ontario from 1993 to 1997 (in 1997, 52 per 100,000 in Toronto compared to 42 per 100,000 in Ontario; Figure 14). The rates for both Toronto and Ontario decreased slightly from 1993.

Figure 14: Teen (15 to 19 Years) Pregnancy* Rates[†] for Toronto and Ontario Total, 1993 – 1997



+ Pregnancy includes all live births, stillbirths and therapeutic abortions.

* Rates per 1,000 female population age 15 to 19.

Data Sources: the Ministry of Health HELPS and the Ministry of Health, PHPDB

Sexual Activity: In 1996, 31% of teenagers between the ages 15 and 19 years reported they had had sexual intercourse, slightly lower than reported for Ontario (36%). However, the high non-response (15%) to this question in the Ontario Health Survey may mean that the actual percent of teens who have had sexual intercourse may be higher or lower than this estimate.

Sexually Transmitted Diseases: See previous section for rates of chlamydia, gonorrhoea, syphilis and HIV.

Health Disparities: The teen birth rate is approximately three times higher in the lowest-income areas of Toronto than in the highest-income areas.

Selected Activities

Sexual Health Clinics: The 14 clinics affiliated with TPH provide birth control education and low-cost contraceptives, pregnancy testing and counselling, sexually transmitted disease testing and free treatment, as well as counselling related to relationships, sexual orientation, etc. There were 38,100 clinic visits for sexual health clinical services in 1999. We are in our second year of redesigning and relocating clinic sites and establishing satellite clinics to ensure service to areas of highest need.

Raising Sexually Healthy Children: We provide workshops for parents and caregivers to foster healthy attitudes towards sexuality and enhance communication between parents and children.

We also deliver peer parent leader projects in the Chinese, Portuguese, Spanish, Tamil and Vietnamese communities that are based on a community-development and capacity-building model. These projects are a joint effort of TPH and our community partners. Parents from each community are recruited and trained to provide peer education to other parents in the community on the topic of “Raising Sexually Healthy Children”.

Kids and Sex: These workshops are for teachers, daycare/child care workers and other professionals to learn about sexual growth and development in children and to develop skills in promoting children’s sexual health.

Youth: A city-wide adolescent peer-led pilot program in schools provides information and skill-building activities through an interactive sexual health fair.

Emergency Contraceptive Pill (ECP): We use a social marketing campaign in buses and subway cars to raise awareness about the use of ECP in preventing unplanned pregnancy.

“Starphone” Messages: We have collaborated with *The Toronto Star* to place over 40 sexual health messages on its telephone access system, with links back to the “AIDS and Sexual Health Infoline” – our counselling and information hotline.

AIDS Grants: We award grants to 57 projects for community groups and agencies to provide HIV/AIDS prevention and sexual health promotion programming.

See also *STDs and HIV*.

5) Control of Other Infectious Diseases

Goals:

- ▶ To monitor, prevent and control exposure to infectious diseases.
- ▶ To reduce illnesses, outbreaks and deaths due to infectious diseases of public health significance.

Selected Health Status Indicators

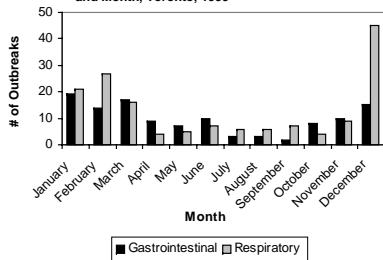
Meningococcal Disease (Meningitis): The number of cases of meningococcal disease remains low in Toronto with 22 cases (0.9 per 100,000) in 1999. Ontario had a rate of 1.0 per 100,000 in 1999.

Invasive Group A Streptococcus (flesh-eating disease): There were 50 sporadic cases of invasive group A streptococcus in Toronto in 1999, a rate of 2.0 per 100,000 compared to 2.8 per 100,000 in Ontario.

Hepatitis A: Toronto had 79 cases of hepatitis A in 1999, a rate of 3.1 per 100,000 compared to 2.3 per 100,000 in Ontario. From 1990 to 1999, the rate remained relatively stable ranging between a low of 3.1 to a high of 10.9 with the exception of 1991 when the rate was 24.3 per 100,000. Toronto has the highest rates in Ontario and males have higher rates than females.

Disease Outbreaks in Institutions: There were 248 disease outbreaks in Toronto institutions in 1999, with 7,082 cases and 76 deaths reported. The majority of outbreaks involved respiratory (157 outbreaks with 3,935 cases) and gastrointestinal diseases (89 outbreaks with 3,140 cases). The remainder was due to Group A Streptococcus (“flesh-eating disease”) which caused 2 outbreaks and affected 7 people. In 1999, Toronto’s outbreak activity peaked during the winter months (Figure 15) with an unusually high number of influenza outbreaks in December.

Figure 15: Number of Outbreaks Investigated by Type of Disease and Month, Toronto, 1999



Data Source: Toronto Public Health.

Selected Activities

Communicable Disease Surveillance and Follow-up: We followed-up 14,580 communicable disease reports that were received from physicians, principals and laboratories in 1999. Cases (or their physicians) are contacted to identify additional ill persons and/or their contacts, provide information about the disease and ways to prevent further spread, implement control measures and ensure appropriate treatment. We routinely analyze our disease database to identify outbreaks, determine disease trends and provide information for program planning.

Infection Control in Institutions: We offer infection-control expertise to hospitals, nursing homes, homes for the aged, day nurseries and personal services settings. We participate in numerous infection-control committees across the city, conduct inspections, consult on policies and procedures, offer in-service education and provide disease statistics.

Pandemic Influenza Contingency Planning and Bioterrorism Preparedness: Naturally occurring global influenza epidemics (pandemics) occur every 10 to 40 years and result in significant illness, death, and social and health care costs. The risk of an infectious disease epidemic resulting from a terrorist act is also increasing globally with the potential for mass public exposure to deadly agents such as anthrax, smallpox, botulism and plague. We are working in conjunction with other city divisions, such as Fire, Ambulance and Police Services, and with external agencies to minimize the impact of these potentially significant threats to public health.

Emerging Diseases Response: The increase in international travel, migration and changing weather patterns has led to new emerging communicable diseases in Canada. In 2000, we responded to 432 calls related to the threat of West Nile Virus, and 102 dead birds were collected and sent for testing as part of the Ontario surveillance initiative. In 1999, we participated in the investigation of the fourth successive outbreak of cyclosporiasis in Ontario, linked to the consumption of imported berries. This investigation resulted in a nationwide restriction on the importation of Guatemalan blackberries and raspberries during the spring import season.

See also [Food Safety](#)