



A PUBLIC HEALTH PRIMER *for* MUNICIPAL CANDIDATES

September 2006

In June 2004, the Ontario government announced Operation Health Protection, a three-year plan to revitalize the province's public health system that prevents disease as well as protects and promotes health. This spring, following a review of local public health unit capacity, the province released its final report describing a new vision for public health in Ontario.

As Operation Health Protection moves forward, municipalities continue to play a role in influencing the delivery of public health programs and services in their local community.

This primer has been prepared by the Association of Local Public Health Agencies (www.alphaweb.org) for municipal candidates and their staff to help raise awareness about the role of the local public health unit and its board of health.

Q: What is Public Health?

A: Public health...

- is a key part of the community's infrastructure - just like roads and sewers

prevents

- saves municipalities money by preventing community health problems before they start
- helps reduce tainted water and food poisoning by monitoring and testing
- prevents the spread of diseases like flu, measles and hepatitis B

protects

- controls communicable diseases like tuberculosis and deals with outbreaks like meningitis
- is on call 24 hours a day to respond to emergencies and natural disasters like chemical leaks, contaminated drinking water and radioactive waste

promotes

- uses education and counselling to reduce unwanted pregnancies and sexually transmitted diseases
- helps reduce incidences of heart attacks and cancer through education and training of children, youths, adults and seniors
- assists families to be better parents and raise emotionally and physically healthier kids

these are only a few of the essential services provided by public health...read on to learn more



Q: How vital is Public Health to a community?

A: Very. Public health touches people everyday.

If you ever had a vaccination, gone out for dinner in a restaurant, received information about improving your eating habits, you had a public health experience. Public health is everyday programs that focus on *preventing diseases*, and *protecting* and *promoting health*. Here's a list of some of the things public health does to keep Ontarians healthy:

| Public Health Programs | What They Do | Cost Benefits | Consequences of Poor Public Health Services |
|---|--|--|---|
| Controlling Communicable Disease and Eliminating Tainted Water and Food Poisoning | <ul style="list-style-type: none"> tuberculosis control hepatitis A & B control meningitis control consults and advises on new, emerging infectious diseases distributes vaccines to physicians centrally health inspections of food and drinking establishments; tests for contamination of drinking water supply | <ul style="list-style-type: none"> reduces illness, increases productivity ensures public confidence that community can respond to outbreaks safeguards conditions for healthy environments. | <ul style="list-style-type: none"> increase in tuberculosis, especially drug-resistant TB as is happening in the USA increase in antibiotic-resistant bacteria like MRSA, VRE increase in food poisonings costing millions in health and related legal costs |
| Reducing Unwanted Pregnancies & Sexually Transmitted Diseases | <ul style="list-style-type: none"> clinics - birth control, sexually transmitted diseases, HIV testing, pregnancy testing, sexual health, responsible relationships | <ul style="list-style-type: none"> saves on the following: <ul style="list-style-type: none"> -\$2,000 in direct cost of teen pregnancy and \$12,000 every year thereafter to support mother and child -\$147 million or \$18,140 per patient per year in direct medical costs of HIV in Ontario | <ul style="list-style-type: none"> rise in unwanted pregnancies outbreak of sexually transmitted diseases |

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|---|---|---|--|
| <p>Immunizing to Prevent Diseases</p> | <ul style="list-style-type: none"> • flu shot clinics • monitors immunization records for all students • ensures hepatitis B vaccine and measles vaccines are administered • keeps children and seniors from acquiring and suffering from preventable diseases. | <ul style="list-style-type: none"> • protects against high cost of outbreak control for preventable diseases: <ul style="list-style-type: none"> - with influenza immunization, there is a cost savings of approx. \$56 CDN (\$46.85 US) per person vaccinated - measles shots saves up to \$4 for every \$1 spent on immunization - save \$400 per person with acute hepatitis B | <ul style="list-style-type: none"> • preventable diseases that affect mostly children will increase and cause unnecessary suffering • high risk seniors and others will die of influenza |
| <p>Preventing Heart Disease, Cancer and other Health Problems</p> | <ul style="list-style-type: none"> • Heart Health • Cancer Prevention • Healthy Eating and Weights • Physical Activity • Positive Parenting • Breastfeeding • Effects of Alcohol & Drugs • Tobacco Use Prevention | <ul style="list-style-type: none"> • preventing illness is cheaper than curing diseases: <ul style="list-style-type: none"> - heart disease costs \$2.7 billion annually in Ontario - smoking-related diseases cost \$1.7 billion and causes 16,000 deaths per year in Ontario • public health teaches people to live healthier so they live longer, feel better, get sick less often and are more productive. | <ul style="list-style-type: none"> • annual \$1 billion treatments costs for cancer in Ontario will increase • more people will die younger from heart disease • more youth will start smoking |
| <p>Dental Health</p> | <ul style="list-style-type: none"> • education programs • screening and treatment clinics, especially for school-age children • preventive services • referral for treatment | <ul style="list-style-type: none"> • saves \$350 to \$7,000 in treating each child with dental neglect • saves Ontario approx. \$13.8 million annually in treating early childhood tooth decay | <ul style="list-style-type: none"> • decline in oral health, especially in children, carries into adulthood • poor people will be unable to get preventive treatment or urgent dental care when it is needed |

Q: Why is Public Health indispensable?

A: Public health responds to crises and prevents them from happening.

In each of the real life cases below, public health came to the rescue to ensure the health and safety of communities and individuals. Public health is on call 24 hours a day to effectively handle emergencies and natural disasters. Communities depend on the presence of a strong, local public health team to act in their best interest during these situations. Public health is indispensable to every person in Ontario.

- **Salmonella Outbreak in Ontario (2005)** - Public health officials at the local, provincial and federal levels collaborated to prevent the further outbreak of salmonella across the province from November to December 2005. Investigators from various agencies such as Toronto Public Health linked the source to contaminated bean sprouts produced by a local company, which had distributed their product to restaurants and grocery stores across Ontario. A province-wide public information campaign warned consumers to avoid eating the sprouts and educated them about the risks associated with their consumption.
- **SARS Outbreak in Toronto (2003)** - In March 2003, the Ontario government declared the highly contagious Severe Acute Respiratory Syndrome (SARS) a health emergency. Working alongside federal and provincial health colleagues, Toronto Public Health staff helped to contain the disease and prevented the spread to the wider community by following up on people who may have come in contact with SARS cases and assessing their health to determine the presence of symptoms. In addition to vigilant identification, surveillance and management of the disease, the local health unit regularly communicated information to a concerned public in a calm and concise manner during the entire crisis. By early July, Toronto was removed from the World Health Organization's list of SARS-affected areas.
- **Contaminated Water in Walkerton (2000)** - In May 2000, staff at the former Bruce-Grey Owen Sound Health Unit (now Grey-Bruce Health Unit) found that the town was experiencing an outbreak of E. coli in the community's water supply. After determining the link between a local well, the municipal water system and the spread of the disease through the Walkerton area, the local health unit mounted an extensive public and media campaign to alert and advise the community, and carefully monitored cases to assure that the measures instituted were bringing the outbreak under control. Bruce-Grey Owen Sound Health Unit staff were key members of the local-provincial team, directing the investigation of and response to the outbreak that ultimately exposed the flaws of Ontario's drinking water system and resulted in a provincial inquiry of the system.

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- **Cyanide Spill in Etobicoke (1997)** - Cyanide spilled into Etobicoke Creek from a factory resulting in a health hazard and threat to water treatment plants. The local public health department played a lead role and coordinated activities of the Works & Parks Departments and the Ministry of the Environment on effecting prompt remedial action to safeguard the health of the public.
- **Hepatitis Outbreak in GTA (1996)** - Public health investigated and solved the mystery of a major hepatitis outbreak that involved over 18,000 patients across the Greater Toronto Area between 1992 and 1996.

But public health doesn't just respond to crises, it prevents them from happening as the following illustrate. Highly trained public health professionals perform a wide range of activities to help communities avert potential threats to health:

- **West Nile Virus** - Health units across the province implement a number of initiatives to control and prevent West Nile virus (WNV), a mosquito-borne disease. These include a larviciding program to reduce the mosquito population, educating the public about WNV, encouraging them to take precautions, surveilling birds and mosquitoes, and tracking human cases with the virus.
- **Measles Control** - Over 2 million children across Ontario were immunized in 1996 with a second dose of measles to ensure their protection. Measles kills a million people a year across the globe and Ontario was suffering outbreaks in the mid-90's. Now, children are safe from this disease.
- **Healthy Babies and Children** - Each health unit in Ontario provides help and support to pregnant women and families with infants and young children to ensure they get the best start in life. Among the many parent-child services, public health provides prenatal classes and newborn screening, phone follow-up of mothers with newborns and offer of a home visit, early developmental screening and assessment, speech and language intervention, dental treatment and prevention, and parenting programs and clinics.
- **Chronic Disease Prevention** - To reduce the burden of illness, public health works hard to educate Ontarians about healthier lifestyle choices such as increased physical activity, healthy eating and weight loss, reduced tobacco and alcohol consumption, and sun safety. In addition, health units promote injury prevention and personal safety issues.
- **Tobacco Use Prevention and Reduction** - Health units run smoking cessation programs for those wanting to quit. They engage communities and youth to prevent and reduce tobacco use. Public health inspectors enforce prohibition of tobacco sales to those under 19 years of age and ensure public compliance to the Smoke-Free Ontario Act.
- **Environmental Health** - Public health continues to monitor and report on health hazards such as poor air quality, extreme temperatures, unsafe beaches and, in some areas, radioactivity. Health units are well trained in preventing and controlling hazardous situations, including nuclear disasters, chemical spills and fires.

Q: *What will happen with inadequate Public Health?*

A: *Here's just a few of the things...*

- Communicable diseases will make a comeback. When New York City cut back on funding for public health programs in the late '80s, tuberculosis came roaring back¹. NYC had to spend 10 times as much to get this disease under control. When the Soviet Union collapsed in 1990, state funding for infectious disease prevention was cut. Diphtheria rates increased almost 30-fold by 1994, the incidence of mumps nearly tripled between 1990 and 1998 and tuberculosis rates increased by 70% from 1990 to 1995².
- Higher incidences of food poisoning from restaurants and other commercial food establishments will result.
- Fewer public health nurses visiting homes will mean that the incidence of low birth weight babies will rise, forcing hospitals to increase neo-natal resources.
- Fewer public health staff in schools and the community will mean that more youth will start smoking or abusing drugs and alcohol.
- Unwanted pregnancies and the spread of sexually transmitted diseases, including AIDS, will increase if sexual health clinics are closed. This will result in increasing health care costs that will be borne by everyone.

¹ War against TB being won again. *The Globe and Mail* (April 15, 1997)

² Netesov S.V. and Conrad J.L. Emerging Infectious Diseases in Russia, 1990-1999. *Emerging Infectious Diseases* (Jan-Feb. 2001, Vol. 7, No. 1)

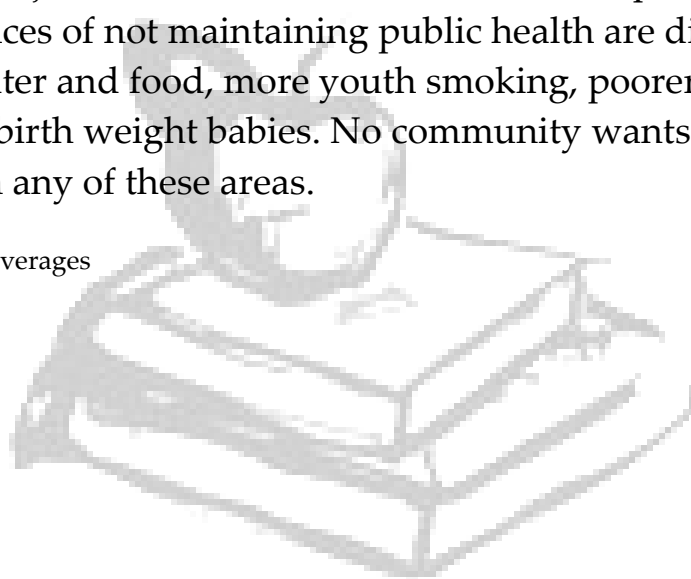
Q: How much does Public Health cost?

A: Not much at all. It's a great investment.

Public health programs in Ontario cost an average of about 13¢ a day or \$47 per person annually* – the price of a movie night with a friend! It is the ounce of prevention that avoids the pound of cure.

Compared to other municipal services, public health is a bargain. It's a vital part of your community's infrastructure and needs to be maintained, just like roads, sewers and waste disposal. The consequences of not maintaining public health are disease outbreaks, tainted water and food, more youth smoking, poorer nutrition, and more low birth weight babies. No community wants to see an increase in any of these areas.

* based on provincial averages



Some Public Health Facts

| FACT | COST-BENEFIT | REFERENCE | FACT SUPPLIED BY |
|---|---|---|--------------------------------|
| Public health, through disease prevention and health promotion, reduces the economic burden of illness | Save \$2,785 per person, or \$56.7 billion per year, in direct health care costs in Ontario | Public Health Agency of Canada. (2002). <i>Economic Burden of Illness in Canada, 1998</i> . Ottawa: Health Canada. http://www.phac-aspc.gc.ca/publicat/ebic-femc98/pdf/ebic1998.pdf | |
| Public health prevents cancer | Save about \$2.7 billion a year in cancer care in Ontario | Cancer Care Ontario. (2004). <i>Ontario Cancer Plan 2005-2008</i> . http://www.cancercare.on.ca/pdf/OntarioCancerPlan.pdf | |
| Tobacco use prevention, cessation, education and enforcement programs reduce tobacco-related deaths | Save \$347,000 per year on health care costs for tobacco attributable mortality in Ontario | Hamilton Regional Cancer Centre, 1989 Mortality data, Michael D.E. Goodyear, Medical Oncology, Clinical Epidemiology and Biostatistics. | Grey-Bruce Health Unit |
| Substance abuse (alcohol, tobacco, illicit drugs) prevention programs reduce the burden of illness, including hospital costs, losses from the workplace, etc. | Save \$441 per person in Ontario on health care, workplace productivity, prevention and research, legal costs and productivity losses due to alcohol-related problems; in 2002, cost of alcohol-related problems was \$5 billion in Ontario | Rehm J. et al. Canadian Centre for Substance Abuse 2002 Highlights.(March 2006). http://www.ccsa.ca/NR/rdonlyres/18F3415E-2CAC-4D21-86E2-CEE549EC47A9/0/ccsa0113322006.pdf | |
| Public health prevents rabies | Save \$600 to \$800 to treat each person exposed to rabies in Ontario | Missing rabies shot could cost pet owners \$5,000. <i>The Globe and Mail</i> . (Sept. 27, 1993). | |
| Public health prevention programs keeps seniors out of hospitals | Save up to \$10,000 per senior hospitalized due to a fall | Are you in Jeopardy? <i>Community Presentation Manual</i> . Central West Seniors Safety Committee. p. 7 | Middlesex-London Health Unit |
| Public health inspections prevent people from getting sick due to food borne illnesses | Save \$306 per person made ill by food poisoning in Ontario and \$459,000,000 per year* * based on 1991 dollars | <i>Costs Associated with Food borne Illness: A Brief Cost Analysis</i> . Sudbury & District Health Unit. (1996). | Sudbury & District Health Unit |

References

| FACT | COST-BENEFIT TO HEALTH & SOCIAL WELFARE SYSTEM | REFERENCE | FACT SUPPLIED BY |
|--|--|--|---|
| Sexual health programs and clinics reduce unplanned pregnancies | Save \$2,000 direct cost of teen pregnancy and \$12,000 to support mother and child | Orton M.J. & Rosenblatt E. (1986). <i>Adolescent Pregnancy in Ontario: Progress in Prevention</i> . Hamilton: Planned Parenthood Ontario. | Grey-Bruce Health Unit |
| Sexual health programs and clinics prevent the spread of sexually transmitted diseases | Save \$147 million in direct medical costs for persons living with HIV in Ontario | Millson P., McMurchy D., Leeb K. (1999) Complementary therapies: A HOOD report on the cost of HIV in Ontario. <i>HIV Health Evaluation Update</i> . | |
| Immunization programs prevent deadly diseases | <p>Cost-savings of influenza immunization at \$56 per person vaccinated</p> <p>For every \$1 spent on immunization, measles shots can save \$4 on health care costs</p> <p>Save \$400 per person with acute hepatitis B¹, and \$11,000 per newborn with hep B²</p> | <p>www.beatheflu.ca/business.html, Ontario Ministry of Health and Long-Term Care web site.</p> <p>Pelletier L., Chung P., Duclos P., Manga P. and Scott J. (1998) A Benefit-Cost Analysis of Two-Dose Measles Immunization in Canada. <i>Vaccine</i>. May-June 1998. Vol. 16, No. 9-10.</p> <p>¹1996 Annual Report. Middlesex-London Health Unit. (May 1997).</p> <p>² Krahn M. and Detsky A.S. (Jan-March 1993). Should Canada and the United States Universally Vaccinate Infants Against Hepatitis B? A Cost Effectiveness Analysis. <i>Medical Decision Making</i>. Vol. 13, No. 1</p> | <p>Grey-Bruce Health Unit</p> <p>Middlesex-London Health Unit</p> |

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| FACT | COST-BENEFIT TO HEALTH & SOCIAL WELFARE SYSTEM | REFERENCE | FACT SUPPLIED BY |
|--|--|---|---|
| Public health prevention and education programs prevent heart disease, cancer and other illnesses | <p>Save \$2.7 billion annually in direct costs of heart disease in Ontario</p> <p>Save \$3.5 billion a year due to smoking-related diseases</p> | <p>Naylor D. and Slaughter P. <i>Cardiovascular Health and Services in Ontario</i>, An ICES Atlas (February 1999). http://www.ices.on.ca/file/3_CVA_Chapter1.pdf</p> <p><i>Costs of Heart Disease and Stroke - Document #15009</i>. Heart and Stroke Foundation. http://www.hsf.ca/facts_on_fax/costs.html.p.1.</p> | Middlesex-London Health Unit |
| Public health dental programs reduce pain and suffering and time loss from school and work due to dental disease, and also contribute to a general sense of well-being | <p>Save costs ranging from \$350 to \$7,000 of treating one child with dental neglect</p> <p>Save approx. \$13.8 million a year in treating early childhood tooth decay in Ontario</p> | <p>Ontario Society of Public Health Dentists brief to the Mandatory Program Advisory Committee</p> <p>Hicks T. et al. Infant Feeding Caries: Part I. <i>Ontario Dentist</i>. (November 1995).</p> | Ontario Association of Public Health Dentistry: Cities of the former North York and Toronto |

Links to Public Health Web Sites

Provincial

- <http://www.alphaweb.org>
- <http://www.publichealthontario.ca>
- <http://www.health.gov.on.ca/>
- <http://www.healthyontario.com>
- <http://www.opha.on.ca>

Federal

- <http://www.phac-aspc.gc.ca/>