Board Report

Friday August 24, 2018
SUMMARY - EMERGENCY MANAGEMENT IN PUBLIC HEALTH
GREY BRUCE HEALTH UNIT

MOH REPORT - DR. IAN ARRA

ACKNOWLEDGEMENT: PUBLIC HEALTH ONTARIO
DREW FERGUSON
TENTATIVE OBJECTIVES

Familiarize Board of Health with Emergency Management related aspects:
- Importance of Emergency Management in Public Health and changing trends
- Priorities in Emergency Management
- Relevant frameworks for classification and management of emergencies (Emergency management cycle, Incident management systems, Local emergency management plans, emergency control group)
- To describe the public health roles in emergency response
- Key partnerships
DEFINITIONS:

- “...disasters are defined by what they do to people, otherwise they are simply interesting geological or meteorological phenomena.” – Eric Noji
- “when the destructive effects of an event overwhelm the ability of a given area or community to meet the demand for (health) services” - Kollek
- “The worst day was when I came home after 12 hours of working with the sickest SARS patients to find out my son, age 5, had a high fever.” Healthcare worker, Participant in The Impact of SARS Study

Emergency/Incident:

- An emergency is defined under the Emergency Management and Civil Protection Act as “a situation or an impending situation that constitutes a danger of major proportions that could result in serious harm to persons or substantial damage to property and that is caused by the forces of nature, a disease or other health risk, an accident or an act whether intentional or otherwise.”
Types of Emergencies:

Natural events: extreme weather, earthquake, flood, and communicable disease outbreaks/pandemics

Anthropogenic (human-related) events: Technological/infrastructure, power failure, hazardous materials, fire, nuclear, terrorism, armed conflict, and mass gatherings
Complex Events:
Complex events tend to:
- be prolonged in duration requiring major changes in personnel
- be large in scale requiring large number of resources
- involve multiple jurisdictions
- pose a significant risk to responders or the jurisdiction as a whole
- have the potential to cause widespread damage/loss to life
- require special knowledge to resolve
- require a more complex structure and formalized plan
Disasters in Canada (Canadian Disaster Database)

Canada is prone to avalanches, earthquakes, floods, landslides, tornadoes, severe storms, and other natural disasters. Some of the major disasters that impacted communities in Canada include:

• 1918 Influenza epidemic: about 50K deaths, 2M infected
• 1917 Halifax harbour explosion: 1,960 deaths
• 1936 Heat wave: 1,180 deaths
• 1914 St. Lawrence ship collision: 1,024 deaths
• 2018 Heat wave: more than 90 deaths just in QC
• 1979 Mississauga train derailment: 225K evacuated
• 1998 Ice Storm (ON-QC-NB): 28 deaths, $4B costs
• 2000 Walkerton: 6 deaths, 2,300 infected
• 2008 Sunrise propane explosion: 1 death, 12K evacuated
• 2010 Floods (AB-SK): $956M costs
• 8 major disasters occurred in Ontario in 2016
Disaster Epidemiology

- Use of core public health capabilities to assist leaders and decision makers by providing timely information

- Measure disaster-related impacts on affected populations and demands on healthcare systems

- Characterize short- and long-term health consequences

- Evaluate effectiveness of health interventions and disease control efforts
Disaster Epidemiology: Key Methods

- Survey techniques
- Public health surveillance and tracking systems
- Epidemiological investigations and studies
- Longitudinal observation
Example - Criteria for potential Bioterrorism: “Epidemiologic Clues”

- Unusual event with large numbers
- Higher morbidity or mortality than expected
- Uncommon disease
- Point-source outbreak
- Multiple outbreaks
- Lower attack rates in protected individuals
- Dead animals or “reverse spread”
- Downwind patterns
- Unusual clinical manifestation
- Direct evidence
Changing Trends

- Global warming increases risk of heat related, drought, flooding
- Increase life expectancy resulted in increased aging population and more susceptible
- Urbanization/suburbanization resulted in greater population density, more severe repercussions
- Increased development on flood plains and water
- Increased dependence on technology
- Increased frequency and speed of travel resulting in increased infectious disease spread
- Increased acts/threats of terrorism linked to increasing inequity
Emergency Management Concepts and Frameworks:
Priorities of Emergency Management

Priorities of emergency management follows the following sequence:

• Keeping responders safe and healthy
• Saving lives
• Reducing suffering
• Protecting public's health
• Protecting government infrastructure
• Protecting property
• Protecting the environment
• Reducing economic and social losses
Emergency Management Cycle

- Prevention
- Mitigation
- Preparedness
- Response
- Recovery
Emergency Management Cycle

Prevention & mitigation: actions taken to reduce the effects of an emergency

Preparedness: actions taken prior to an emergency to ensure an effective response

Response: actions taken to respond to an emergency

Recovery: actions taken to recover from an emergency

Crisis communications: occurs throughout
Hazard Identification and Risk Assessment (HIRA)

- Informs all other parts of EM cycle
- Program priorities, action plans & time lines
- Helps to assign resources
- Assess vulnerability of communities
- Surveillance design can be based on HIRA
- Monitor and review --> iterative process
Hazard Identification and Risk Assessment (HIRA)

- Severity (consequence) and frequency (probability) grid
- Risk = Hazard x Probability
- Risk = chance of danger, loss, injury, or other adverse consequences resulting from the hazard or threat
- Hazard = a threat, event or physical condition that can cause fatalities, injuries, property damage, interruption of business, etc.
- Probability: previous/historical occurrence, demography, geography, intelligence
Emergency Response Plan

• Who is responsible for emergency planning (e.g. Emergency Planning Committee)
• Who can activate plan and when (e.g., Under the Emergency Management and Civil Protection Act, only the head of council of a municipality (or his or her designate) and the Lieutenant Governor in Council or the Premier have the authority to declare an emergency.
• HIRA --> How to declare and terminate emergency plan
• How to notify those affected or involved in the response
• Internal and external resources available (e.g. provincial or federal assistance)
• Communication strategy
Emergency Response Plan

• Training, exercises and reviews of plans
• Appendices for specific emergencies: high risk; politically sensitive; legal requirement
• Directory of vital services, equipment, staff
• Good plans are: familiar, flexible, have redundancy built in, ensure continuity
• All-hazards: general approach that integrates common ER elements
• Hazard-specific plans for high probability/high impact AND low probability/high impact
Municipal Emergency Control Group

- Mayor
- City Manager
- Police Chief
- Fire Chief
- EMS Chief
- Medical Officer of Health
- Public Information Officer

- Emergency Management Coordinator
- Public Works
- Community Service
- Corporate Services
- Transit
- Hydro
Continuity of Operations Plan (COOP)

Time-critical functions of an organization that must be maintained or quickly resumed in the event of an emergency that is requiring resources (inward-facing)

Establish the context and governance for COOP
- Buy-in from higher levels
- Dedicate resources to developing COOP

Examine the organization’s environment and operations
- Analysis of business of organization
- Prioritize services: internally and externally
- Identify critical functions and activities
- Identify critical activities that enable the above
Continuity of Operations Plan (COOP)

Develop alternative COOP strategies, plans and business arrangements

- Service degradation (decrease non-essential functions)
- Internal continuity (internal and external resources)

External continuity: arrangements with other organizations to use their resources in time of emergency

Preparedness: training and exercises

Maintaining COOP plans: revise and update

Business recovery: how to resume operations, how to prioritize, objectives for service resumption
Continuity of Operations Plan (COOP)

Objectives:
Optimize the safety and welfare of all employees, clients and visitors
Ensure continuous performance of essential functions
Protect critical infrastructure and assets
Mitigate disruptions to operations, damage and losses
Achieve an orderly and effective resumption of services
Emergency Plans Mapped to the Emergency Management Cycle

- **Hazard Identification & Risk Assessment (HIRA)**
  - Informs all phases of emergency planning

- **Incident Management System (IMS)**
  - Coordinates these activities in a standardized, flexible manner.

- **Continuity of Operations Plan (COOP)**
  - Protects PHO business interests and sustains operations.

- **Emergency Response Plan (ERP)**
  - Provides structure and tools for response.

**Prevention**

**Mitigation**

**Preparedness**

**Response**

**Crisis Communications**
- Has internally and externally facing pieces

**Training & Exercises**
- Ensures relevant plans and staff confidence in their roles

PublicHealthOntario.ca
<table>
<thead>
<tr>
<th>Public Health Roles in Emergency Management (by Dr. Bonnie Henry)</th>
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<td>• Early Detection</td>
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<td>• Command and Control</td>
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<td>• Mass Patient Care</td>
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<td>• Mass Fatality Management</td>
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<td>• Evacuations/sheltering (humans and animals)</td>
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<td>• Environmental Surety</td>
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<td>• Community Recovery (rapid health risk assessment, mental health)</td>
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LOCAL PUBLIC HEALTH RESPONSE

ROLE OF MOH

LEGISLATIVE AUTHORITY
MOH CAN BE CALLED UPON TO USE MANDATE AND HPPA AUTHORITY TO CONTAIN THREATS
REQUIRED UNDER HPPA/OPHS TO DEVELOP EMERGENCY RESPONSE PLANS
LOCAL PUBLIC HEALTH RESPONSE

PH MAY BE FIRST RESPONDER FOR:
INFECTIOUS DISEASES
BIOTERRORISM

PH MAY BE SECONDARY RESPONDER FOR:
NATURAL: SEVERE WEATHER, FLOODING, OTHER DISASTERS
TECHNOLOGICAL: HAZARDOUS SUBSTANCES
HUMAN-MADE: TERRORISM, CIVIL UNREST
Key Partners

Health System
- Public Health
- Hospitals & LTC
- Primary & Community Care
- Laboratories
- Paramedics

Emergency Management
- Government
- Public Works
- Fire
- Police
- Paramedics

Allied Agencies
- Social Services
- Utilities
- Transportation
- Media
- NGOs

In a public health emergency, we cannot operate in a silo.

Source: PHO, 2013 (p. 12c)
EMERGENCY LEGISLATION

Emergencies Act (Canada, 1985)
Emergency Management Act (Canada, 2007)
Quarantine Act (Canada, 2005)
Emergency Management and Civil Protection Act (Ontario, 1990)
Health Protection and Promotion Act (Ontario, 1990)
Health Systems improvement Act (Ontario, 2007)
Occupational Health & Safety Act (Ontario, 1990)
Other relevant provincial legislation:

- Ambulance Act (e.g., education and personal protection of paramedics)
- Public Hospitals Act (e.g., development of emergency plans)
- Private Hospitals Act
- Nursing Homes Act (e.g., surveillance and reporting of infectious disease)
- Long-Term Care Act (e.g., comply with Ministry directives)
- Community Care Access Corporations Act
- Personal Health Information Protection Act (e.g., disclosure to MOH without consent as per HPPA)
- Regulated Health Professionals Act (e.g., for temporary registration of those from other provinces in emergency, see specific Acts)
Health Protection and Promotion Act (Ontario, 1990)

- Identifies the powers and responsibilities of boards of health, MOH and the CMOH
- Local MOHs may issue orders under the HPPA for the management of infectious diseases in their area (In the event of a conflict, a directive of the CMOH prevails)
- Provides legal authority for BOH to respond to a public health emergency due to a health hazard or communicable disease
The 8 Responsibilities of BOH

- Identify and assess the relevant hazards and risks to public health
- Develop a continuity of operations plan, including Identifying time-critical public health services that must continue to be delivered
- Develop an emergency response plan, including a general all-hazards plan and supporting plans that guide the response to specific threats identified as high-risk
- Develop, implement and document 24/7 notification protocols
- Increase awareness regarding emergency preparedness activities
- Deliver emergency preparedness and response education and training for BOH staff
- Ensure orientation of officials on BOH emergency response plan
- Exercise the continuity of operations plan, emergency response plan and 24/7 notification protocol
References

Public Health Ontario
https://www.publichealthontario.ca/en/LearningAndDevelopment/Pages/Event-Presentations.aspx

The Canadian Disaster Database

DECLARING AN EMERGENCY

Source: http://www.elaws.gov.on.ca/html/statutes/english/elaws_statutes_90e09_e.htm
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Children’s Water Festival - A Day At The Beach

The Grey Bruce Children’s Water Festival, held this year from May 15 to 17, is an annual event that uses hands-on activities, discussions and demonstrations to teach students about the importance of water and the environment. The Water Festival is open to Grade 4 students in Grey Bruce. Approximately 3000 students, teachers, parents and volunteers attended, held at the Chesley Community Centre.

Public Health Inspectors participated in this year’s event teaching about beach water quality. Children learned about germs in beach water, when it may be unsafe to swim and how Public Health tests beach water. The children took turns being a health inspector by doing simulated water sampling. A small pool of water was filled with green and red beads representing good and bad bacteria. Each student had a chance to fill a water sample bottle, count the bad bacteria and determine whether their beach was safe to swim or had to be posted. The activity and message was well received, many participants already knew about our website, beach signs and the general rules of when it may be unsafe to swim at the beach. Public Health messaging related to beach water safety was available for participant to take home.
**Naloxone Access and Ontario Naloxone Program Expansion**

Access to naloxone continues to be an important measure to reduce opioid-related harms in the community. Naloxone can temporarily reverse an opioid overdose. Naloxone kits and related harm reduction training is available free from Public Health for people at risk of an opioid overdose, as well as their family, friends or others who may be able to help. Naloxone is also available through many local pharmacies and through some community organizations.

As of June 30, 2018, Public Health distributed 363 naloxone kits directly to people who use drugs and those who may be able to help in an opioid overdose. The program continues to grow as kit distribution in the first half of this year has already surpassed the 318 naloxone kits distributed in all of 2017.

Naloxone availability has been promoted through local campaigns, media, regular posts on Health Unit social media, at community events and training sessions for community partners. An overdose awareness campaign was launched in May 2018 in partnership with local OPP and area police forces. Police are distributing the cards during RIDE checks and community events throughout the summer. Local outreach strategies also includes distribution in laundromats, gyms and campgrounds.

The Grey Bruce Health Unit serves as a naloxone distribution lead under the Ontario Naloxone Program to provide naloxone, training and other supports to eligible community organizations. Agreements are in place with five sites for naloxone distribution by agencies where individuals are already receiving services. Four of these sites newly joined in 2018.

In early 2018, the Ontario Naloxone Program expanded to include Emergency Departments and St. John Ambulance as well as police and fire services. Three police services and three fire services have agreements in place to access naloxone through the Grey Bruce Health Unit, with an additional fire service pending. Public Health supports interested agencies in meeting enrollment requirements.