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Evaluation of Simcoe Muskoka District Health Unit's Planning, Preparation and Response to the G8 Summit, June 2010

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Executive Summary

Introduction and Background

On June 19, 2008 Prime Minister Stephen Harper announced that Canada would be hosting the Group of Eight (G8) Summit at Deerhurst Resort in Huntsville in June 2010. An event of this magnitude brings with it a myriad of issues demanding a coordinated and cooperative response from government agencies at the federal, provincial and municipal level.

Between early 2009 and the hosting of the event June 25 to 26, 2010, Simcoe Muskoka District Health Unit (SMDHU) took a lead role in the planning, preparation and response to the potential public health risks and issues posed by this event.

This evaluation takes a critical look at public health planning and preparedness activities, and the response outcomes in order to:

inform local planning for future mass gatherings in Simcoe and Muskoka and

inform future planning specific to G8 or G20 by other jurisdictions.

Summary of Findings

Planning is key to effective emergency preparedness and response. Regardless of whether the incident is man-made, health-related or environmental in nature, good planning is what separates a successful response from an unsuccessful one. The hosting of the G8 Summit within the area served by the health unit posed potential threats to the health and well-being of residents and visitors to the region. The results of this evaluation suggest that the SMDHU's G8 planning, preparedness and response efforts to prevent or mitigate the potential public health risks were successful. This experience provides the building blocks for future mass gathering planning, preparation and response.

Roles, Responsibilities and Authority

The response required the cooperation and coordinated actions of multiple levels of government and a multitude of non-government organizations and agencies. Clearly defining roles and accountabilities at the outset of the exercise was critical to the health unit's success.

Hazard Identification and Risk Assessment (HIRA)

Hazard Identification and Risk Assessment (HIRA) was a key component to the successful planning. It accurately identified infectious diseases and food and/or water related disease, extreme weather and loss of critical infrastructure as hazards for which mitigation and response strategies were required.

The assessment helped to focus preparedness and response efforts. Among the mitigation strategies identified in the concept of operations plan were activities related to the prevention of food and waterborne disease. Inspections of food premises and suppliers, training of food handlers and compliance of safe water legislation activities focusing on high and medium risks in the Huntsville and Muskoka District area starting some four months prior to G8. Additional inspections and re-inspections were conducted for high and medium priority food services operations as required.

Although it is not possible to establish cause and effect, the evaluation findings confirm that there was no increase in food and waterborne disease from 2009 to 2010 for the period of May 1 to July 31.

Food and Waterborne Hazard Prevention
Food and waterborne illness were considered to be among the highest public health concerns with the G8. In an effort to reduce the risk, inspections of the facilities were conducted in advance of the G8 to ensure compliance with regulations. There was no increase in foodborne and waterborne disease among Muskoka District residents or among Simcoe Muskoka District residents during the response period (May to June 2010) compared with the same period for the previous year.

Surveillance
Three types of surveillance were used: active, passive and syndromic surveillance. This was the first time the syndromic surveillance system (QUESST) was used by SMDHU for this type of event. The health unit now has a better understanding of the system's applications and limitations. Surveillance reporting was shown to be timely and accurate. Surveillance monitoring picked up four incidents and triggered action: two routine illness investigations were completed.

GIS Mapping
Significant resources were dedicated to building the framework for a Geographic Information System (GIS) that could be used to support incident response in relation to G8. During G8, GIS was applied primarily to access simple geographic information and to identify areas of interest or facilities, premises or locations that required public health intervention or response.

The use of GIS mapping for G8 response was limited by access to the technology, the speed of the technology, the accuracy of data within the application and the small number of incidents requiring response during this period.

Communications
Simcoe Muskoka District Health Unit was a leader in communications planning for this event at the local and provincial levels. Communications staff worked closely with partners to determine roles, processes and responsibilities. This helped SMDHU to implement a coordinated and consistent approach to internal and external communications. The integrated clock process map demonstrated that regular, timely communication occurred at and between the provincial and local levels during G8.

Community Preparedness, Education and Awareness
The Community Health subcommittee of the SMDHU G8 Planning committee identified the importance of identifying potential community health issues and public health impacts associated with G8. The subcommittee also identified the need to develop and disseminate key messages to vulnerable populations during the G8 event, as well as to provide information to community partners and the affected population to assist them to be prepared for public health emergencies that might arise. The HIRA is critical to identifying key issues and focusing key messaging regarding preparedness and response for partners and the public. This focus enables and facilitates action to protect health and prevent illness and injury. Based on the response from partners, the tools created by the health unit to facilitate preparedness were valued.

The health unit is recognized as a source of information. Health Connection was well prepared, but received few calls. This may be the result of the right amount of information being proactively provided to the public through various and easy to reach channels.

Incident Management System (IMS)
The role of the IMS in facilitating and supporting an integrated and coordinated response was assessed using two incidents—report of an enteric disease cluster and the Midland tornado with associated infrastructure failure. Response to the enteric cluster was clearly directed by the SMDHU Incident Commander through to Lead Disease Investigation and Surveillance. Both internal and external participants in the response acknowledged and respected this authority and direction.

The IMS supported a coordinated response internally including the identification of key issues at the IMS table, engagement of the appropriate staff in response as needed and the provision of regular updates to the IMS.

The outbreak investigation and communications went according to plan. Staff had the resources and supports they needed to respond. Communication received was generally considered to be accurate, clear, timely and relevant.

Those involved in the response pointed to the relationships established during planning and preparation between SMDHU and external partners including the Ministry of Health and Long-Term Care (MOHLTC), Integrated Security Unit (ISU) medical staff, other medical experts and Toronto Public Health (TPH) as key to the successful response to the cluster. This enabled SMDHU to effectively follow-up on rumours of an outbreak, to receive timely notification of cases and to effectively direct medical staff how to proceed. Allowing ISU staff to return to work more quickly after the absence of symptoms than is normally recommended was deemed to be appropriate in the circumstances and responsive to the needs of the partners.

The tornado had greater consequences to more people, structures and systems than did the enteric cluster. It affected not only the public, but our own staff, office and programs. It was a more sudden event and a rapidly changing situation. The process map illustrates that the IMS supported an integrated and coordinated response with municipal partners through the Incident Commander, beginning with his attendance at the Simcoe County Emergency Operations Centre (EOC) within hours of the event and participation through his designate (the Health Protection Lead) at the Town of Midland EOC. It also illustrates the rapidity with which communications occurred; decisions were made and acted upon.

The IMS structure facilitated early notification of the event to all IMS Leads who took responsibility for communicating and coordinating the response as required within their areas of responsibility. Staff responded in accordance with existing protocols in advance of central direction. For example, staff responded as per existing protocols to secure and protect tens of thousands of dollars of publically funded vaccines. Essential services were delivered in a timely manner. No food or water related illness was reported.

Overall, a majority of staff surveyed felt that the information provided by SMDHU management was accurate and relevant but not timely. Many staff felt that the response to the tornado was not entirely coordinated and integrated. Lack of timely communication may have contributed to this perception. Some surveyed staff suggested that they were unsure of their roles and the role of the health unit during the incident.

Resources
The health unit approached planning for the G8 Summit as it would any major event. All possible measures to protect and promote health and prevent disease and injury were considered for action. Actions were constrained to those that are required and where possible, achieved through the redeployment of current resources.

The G8 response and other essential services were delivered with minimal additional external human resources. Limited overtime and on-call costs were accrued due to existing staff shifting their hours of work to implement activities identified within our concept of operations. The G8 was identified as a pressure in 2009 and 2010 with a significant impact on the ability of the agency to move forward with the strategic plan.

Recommendations
<u>For future hosts to G8 and G20 event</u>

1. Establish a clear understanding of your role, mandate, authority and accountability in relation to the other parties participating in the planning and response.

   Get a legal opinion.

   Put it in writing—share your understanding of your role, mandate, authority and accountability with partners.

   Develop mutual aid agreements to ensure you have a safety net in case the worst happens.

   Be prepared for unexpected changes to the landscape.

2. Use a systematic approach such as the Hazard Identification Risk Assessment (HIRA) to assess and categorize public health risks in order to guide planning activities.
3. Investment in strategic and focused prevention strategies may be effective in reducing the public health risks associated with mass gatherings.

   Be prepared to conduct additional inspections as some existing premises expanded their facilities well beyond typical operation, or created additional outdoor temporary food service areas.

4. Be prepared to inspect large volumes of food from plants under the jurisdiction of other bodies or health units.

   Distribution and transport are critical control points to assess as well as compliance history.

5. Advance liaison with security forces is critical to accessing sites requiring inspection.
6. Surveillance is key.

   Pinpoint indicators specific to the priority risks identified through the Hazard Identification Risk Assessment.

   Use the indicators as a basis of a surveillance and monitoring system and allocate appropriate resources to data collection, analysis and reporting in order to ensure early warning of potential risks (e.g. syndromic surveillance system).

Allow time and resources to negotiate and obtain agreements to participate in the syndromic surveillance system from all relevant emergency departments.

7. Consider incorporating the use of a Geographic Information System (GIS) to support planning and response.

   Take time to build the system and the skills in advance of the event in order to ensure timely access to accurate information.

8. Establish linkages that will enable the coordination of communications across sectors.
9. Establish a communication cycle to support and coordinate internal and external communications.
10. Be prepared to pro-actively communicate with media regarding preparedness well in advance of the event.

    Limit media relations during the event to messaging in response to incidents.

11. Build and test communications systems and processes in advance.
12. Focus information regarding preparedness to address priority areas and provide tools that will facilitate action on the part of partners and the public to promote and protect health.
13. Do not underestimate the importance of developing and enhancing relationships with key partners in advance of an event with a view of:

    clarifying roles, responsibilities and mandates

    aligning protocols for response to key issues and

    establishing contacts and communications channels that will facilitate timely, accurate and relevant communication.

14. Do not underestimate the cost of planning and preparedness.

    Recognize the uncertainty regarding funding for planning and response, tailor plans to focus on essential activities and plan to operate within existing resources.

<u>For future mass gatherings in Simcoe Muskoka</u>

1. Foster working relationships strengthened by G8 preparedness and response.

   Apply the lessons learned through G8 to strengthen local emergency plans.

   Annually review mutual aid agreements and refresh as needed with public health partners.

2. Use the HIRA to guide planning activities and prioritize allocation of resources.
3. Facilitate regular meetings of Emergency Management, Food Safety and Safe Water program field staff during the preparation and response stages as circumstances dictate in order to support a comprehensive and coordinated inspection and field response.
4. Confirm the scope of surveillance and monitoring activities in advance of an event in order to ensure relevant and accurate indicators of risk.
5. Ensure sufficient allocation of resources to data collection analysis and reporting in order to ensure timely reporting that will support response (e.g. syndromic surveillance system).

6. Continuing with the development of the GIS foundation that was laid in the months leading up to G8 and collaborate with other agencies who have data and maps already in place (e.g. County of Simcoe).

    Build the use of GIS mapping tools (ArcGIS Explorer, GPS units) into program planning and delivery.

    Provide the necessary training and technical support to use the tools and functions effectively.

    Create more ready-made maps for the entire County and District so staff will become familiar with them and get used to using them.

    Adopt agency standards for the accurate collection of geographic based information.

7. Build on communication tools and processes that are already in place. This is not the time to try new strategies.
8. Clarify review and approval processes for communications internally and externally to ensure timely response in light of rapidly changing events.
9. Use the preparedness checklists as a template for tools to facilitate preparedness and response to future mass gatherings.
10. Work with SMDHU staff based in local health unit offices to test emergency systems and protocols and to reinforce roles, responsibilities, protocols, health and safety considerations and lines of communication.
11. Consider identifying and deploying a lead manager to the site of an incident in order to ensure the following:

    Accurate and timely assessment of the situation to the Incident Commander.

    Clear and timely communication to the staff on site regarding agency direction.

    Monitor health and safety of staff.

12. Share, modify, adapt and re-use tools created in planning and response to G8 to maximize the benefit of resources expended.

1. INTRODUCTION

On June 19, 2008 Prime Minister Stephen Harper, announced that Canada would be hosting the Group of Eight (G8) Summit at Deerhurst Resort in Huntsville in June 2010. An event of this magnitude brings with it a myriad of issues demanding a coordinated and cooperative response from government agencies at the federal, provincial and municipal level.

Between early 2009 and the hosting of the event June 25 to 26, 2010, Simcoe Muskoka District Health Unit (SMDHU) took a lead role in the planning, preparation and response to the potential public health risks and issues posed by this event.

This evaluation takes a critical look at public health planning and preparedness activities and the response outcomes in order to:

inform local planning for future mass gatherings in Simcoe and Muskoka, and

inform future planning specific to G8 or G20 by other jurisdictions.

2. BACKGROUND

2.1 DESCRIPTION OF THE G8 SUMMIT

Created in 1975 to bring together the leaders of Canada, France, Germany, Italy, Japan, Russia, the United Kingdom and the United States of America, the G8 meeting is held annually in one of the member countries to address a wide range of international economic, political and social issues. In addition to the G8 delegations and their support staff, this event tends to attract delegations from other countries, non-government organizations and special interest groups.

Large numbers of security staff, protestors, activists and the media are also present. Mass gatherings of this type create the potential for public health issues to arise. Multi-agency cooperation and collaboration is required to prepare and respond to this event to ensure a safe, secure and health-supportive environment while minimizing disruption.

2.2 PLANNING, PREPARATION AND RESPONSE

The Town of Huntsville, with a population of almost 20,000, is the largest community in the District of Muskoka. Deerhurst Resort, the host location selected for the Summit, is located 13 kilometers from Huntsville on the shores of Peninsula Lake.

The Royal Canadian Mounted Police (RCMP), the Ontario Provincial Police (OPP), Department of National Defense (DND) and other law enforcement agencies formed the Integrated Security Unit (ISU) to provide security at the event. The ISU worked with the Summit Management Office (SMO) and other partners to provide a safe and secure environment.

The establishment of security zones around the Summit site shaped the overall response and dictated the levels of engagement for different agencies and levels of government. The highest security involved the Deerhurst site (Zone 1 or Red Zone). Special accreditation was required for personnel entering the site along with a commitment to remain within the boundaries of the site for the duration of the summit. The Yellow Zone, also known as Zone 2, was the second level of security involving the periphery of the Red Zone extending for a specified distance

around Deerhurst. Zone 3 was the Community Zone encompassing the remainder of Simcoe and Muskoka. The Ministry of Health and Long-Term Care (MOHLTC) was charged with responsibility for all health care related activities in Zone 3 and for creating the health sector plans specific to the G8 Summit in partnership with health care agencies.

Planning Assumptions

During preliminary planning discussions in January 2009, it was assumed that the G8 Summit could attract as many as 100,000 people:

Dignitaries – as high as 10,000

Delegates and entourages – 5,000

Media – 5,000

Security Officers – 7,000

Demonstrator/Protesters – could be as high as 60 to 100,000.

It was noted that the number of expected demonstrators and protestors could be much lower since many might prefer to target Ottawa. During the G8 in Kananaskis, only about 2,000 demonstrators/protesters attended.

On September 25, 2009 Prime Minister Stephen Harper, announced that a G20 Summit would take place in Canada along with the G8. In early December he announced that the G20 Summit would be located in Toronto immediately after G8.[1] The Summit changed from a three-day event in Muskoka to two Summits: one and a half day each in Muskoka and Toronto. It was then assumed that the impact in Muskoka would be somewhat less than had been previously planned. The final SMDHU G8 plan assumed:

20 to 30 national leaders would attend the G8 Summit.

As many as 2,500 to 3,000 media and press attendants were possible.

Numbers of entourage, support and security, protesters and demonstrators were not known in advance.

No mention was made in the plan about the number of security forces expected.

The actual numbers of people participating in Muskoka was even less than expected:

30 national leaders.

The number of media personnel is unknown, however a small number were invited by the Summit Management Office and transported by bus from the press area located at Exhibition Place in Toronto.

The number of entourage, support and security for the dignitaries remains unknown.

Low numbers of local residents protested for issues of local interest; a handful of protestors from each of Oxfam, World Vision and the Council of Canadians staged peaceful events of international and national interest.

About 5,000 ISU staff (RCMP, OPP) were housed in temporary accommodations in the Huntsville area.

The influx of people and security measures were expected to impact the community through transportation disruptions due to road closures and congestion. This disruption was expected to affect:

- Timely delivery of supplies and equipment.
- Patient transport to hospitals and between facilities.
- Travel time for home-care providers.
- Patients seeking routine primary care.

Patients seeking routine primary care and those in acute care were also expected to be impacted by health care capacity. Measures such as early/temporary discharge from acute care facilities to community or long-term care were expected to be required to increase capacity, possibly impacting routine primary care and disrupt those in acute care.

The *G8 Public Health Subcommittee*, composed of public health stakeholders in the affected region and co-chaired by the Medical Officer of Health and the Director for Health Protection Service for the Simcoe Muskoka District Health Unit, was established to facilitate a streamlined and strategic plan to support health consequence management for the 2010 G8 Summit. The SMDHU worked closely with other public health agencies to facilitate G8 planning activities and establish common public health preparedness and response strategies.

Planning was informed by a literature review related to the public health consequences of mass gatherings and the experience of public health officials who participated in the G8 Summit hosted in Kananaskis, Alberta in 2002. Planning was based on assumptions derived from the literature, documented experience with previous mass gatherings and consultation with the Medical Officer of Health involved in the previous 2002 G8 Summit.

Mass gatherings tend to generate more injuries and illnesses than a stable population equivalent in size (i.e. a mass gathering of 30,000 people will have more injuries/illnesses than a community of 30,000 people). They are "*unique because of their temporary nature, the multiple factors that impact on the event and the unique inter-organizational collaboration required to stage the event successfully. Various agencies administer different services in relation to the provision of a safe environment…Planning and inter-agency coordination are essential to assure the delivery of appropriate health care and to provide a safe working environment. This includes well-defined communication channels*".[2]

The primary objectives of the *G8 Public Health Subcommittee* were:

- To develop a plan that would ensure continuity of public health services during the G8 Summit for current residents in the impacted areas to the extent possible.
- To develop a plan that would ensure sufficient public health surge capacity to cope with anticipated demand, and coordination with other key health care partners and the ad hoc health system/health planning for visitors and delegates.
- To develop a plan that would enhance public health services to prevent or mitigate potential impacts from the G8 Summit.
- To develop a plan that would ensure the public health sector could detect and respond to any extraordinary events that may occur in relation to the G8 Summit.

The health sector plans were combined to create a generic *G8 Preparedness and Response Plan* for the province.

SMDHU G8 Summit Preparedness and Response Plan

The 2010 G8 Summit was held within the geographical area served by SMDHU. The health unit was responsible for providing legislated public health services across the entire region. In addition to normal public health services SMDHU needed take into consideration the increased needs and/or consequences to the area surrounding the G8 Summit in order to be prepared to protect health, safety and critical services from the consequences of the Summit.

The periods for Planning, Preparedness and Response were loosely defined as follows:

Planning – June 2009 to March 2010

Preparedness – March 2010 to June 2010

Response – June 18 to June 27, 2010.

The actual period of the G8 Summit was the evening of June 24 to noon June 26, 2010. A recovery phase from June 27 to July 15, 2010 which addressed the demobilization of staff and incident debriefing sessions was included in the plan.

The SMDHU adopted the generic public health planning framework created by the G8 Public Health Subcommittee to assist with the development of the *SMDHU G8 Summit Preparedness and Response Plan*. The SMDHU Plan is a comprehensive incident preparedness and response plan built within an incident management framework. Included within the plan is a detailed analysis of the potential public health risks associated with similar events along with risk-specific mitigation and response strategies. The plan also describes communication protocols and emergency management relationships between the health unit, local municipal and community partners as well as provincial and federal counterparts involved with the G8 Summit.

The Hazard Identification Risk Assessment (HIRA) was a key planning activity. Based on a literature review eight categories of public health hazards were identified in association with mass gatherings. The risks were then assessed and G8 Summit priority hazards were identified. The SMDHU used this hazard ranking to focus the development of mitigation and response strategies.

Mitigation strategies included prevention activities that were implemented through the preparation and response phases. Specific preparedness activities in the concept of operations plan included:

Heightened surveillance/compliance monitoring. Compliance inspection of high and medium risk, plus re-inspections in prioritized zones in February to March 2010 and additional inspection and re-inspections where needed in May to early June 2010.

Enhanced face-to-face food handler training for high and medium-risk facilities in January to March 2010.

Preliminary inspections of facilities within the Red Zone and Food Safety Training for Red Zone (Zone 1) facilities with Health Canada.

Compliance inspections of Food Sources.

Inspections of Transient Camps and Temporary Accommodations (community sanitation assessments, food safety).

Liaison with municipalities to establish requirements for temporary/"rogue" food vendors and enforcement of food safety requirements.

Assessment, inspection and compliance of small drinking water systems within the Community Zone (Zone 3) (restaurants, hotels, motels and temporary camp sites).

Recreational camp inspection prior to opening and/or within two months of the event in the Community Zone (Zone 3) and within seven days of the event in Zone 1 and 2.

Active Surveillance using established surveillance protocols and indicators prior to and including the time of the G8 Summit. Passive surveillance from health care providers.

Implementation of Syndromic Surveillance Strategies.

Providing maps as needed including enhancing user accessibility to maps and training users on mapping tools.

Development and distribution of community preparedness education and awareness promotional items (preparedness checklists).

Redeployment of staff.

An integral part of the preparation included creating, maintaining and/or enhancing relationships with partners to the response. Clearly defining roles and responsibilities of the parties within the various zones was a key recommendation from those involved in the 2002 G8 Summit.

Establishing and reinforcing lines of communication with the various planning bodies was key to obtaining the information necessary to be prepared and to ensure clear communication channels during the response.

The SMDHU participated with partners in several exercises designed to test and refine the G8 preparedness and response plans at all levels and across the sectors including:

Provincial – Trillium Sentry table top exercise (December 8 to 10, 2009)

Provincial – All Committee Day Exercise (January 28, 2010)

Provincial – Trillium Guardian exercise (May 10 to 11, 2010)

Muskoka Algonquin Health Care (Huntsville Hospital) exercise (May 18, 2010)

National CBRN Table Top Exercise (June 18, 2010).

The health unit used the Incident Management System (IMS) model as its emergency management structure. The role of IMS was to facilitate an integrated and coordinated response to expected and unexpected public health consequences of the Summit and to ensure the delivery of essential services to the entire Simcoe Muskoka region, within the context of increased demands on resources necessitated by the Summit. The agency's Emergency Operation Centre (EOC) was activated during the response phase, allowing IMS Committee members to meet to monitor the current G8 situation, assess agency response needs and mitigate any impacts on public health and agency operations. The EOC was designated as a centralized command and coordination site to assist with flow of information both within the agency and with community partners.

Two significant incidents occurred during the G8: an enteric cluster among Integrated Security Unit (ISU) staff housed in Temporary Accommodation Facilities (TAF) and a tornado that touched down in Midland and the ensuing power outage. These incidents are the focus of evaluation questions related to response.

On June 23, 2010 the SMDHU was notified of gastrointestinal symptoms among ISU staff at the Temporary Accommodation Facility (TAF) in Huntsville. At the same time, some ISU staff in Toronto for the G20 Summit also reported ill with similar symptoms. The health unit responded following normal protocols for surveillance, case management and follow-up for enteric illness. Investigation and response was coordinated with:

- The Ontario Ministry of Health and Long-Term Care (MOHLTC).
- Medical staff at TAF, Royal Canadian Mounted Police (RCMP), Ontario Provincial Police (OPP), Department of National Defense (DND).
- Toronto Public Health (TPH).
- Other key external partners.

Investigation and responses were also coordinated internally between Clinical, Health Protection, and Corporate Services. By the end of the week (June 25, 2010), nine cases in Huntsville met the case definition for enteric illness. Investigations concluded that there was no epidemiological link between the cases. As the most significant event related to infectious disease, food or waterborne illness, during G8 this cluster of illness was included in the evaluation.

On June 23, 2010 at approximately 18:20 hrs, an F2 tornado touched down in Midland, Ontario causing extensive property damage and a wide-spread power outage affecting parts of Midland, Penetanguishene and surrounding townships. Between the hours of 18:00 and 24:00 on June 23, 2010 fewer than 10 injury-related visits to the Midland hospital were recorded. Three people were admitted to hospital. There were no deaths.

The Town of Midland and the County of Simcoe declared a state of emergency activating the County Emergency Operations Centre (EOC) and the Town of Midland EOC. The SMDHU responded by conducting activities normally done during this type of incident:

- Attending County EOC meetings as a member of the County's Emergency Control Group to provide advice and support for public health concerns.
- Providing information and advice to the municipal (Midland) EOC consistent with its role as a support agency.
- Securing and managing publically-funded vaccines.
- Contact and assessments of food premises and water systems.
- Providing public service announcements related to food safety.
- Offering services of a Public Health Nurse at the evacuation centre.
- Disease and injury surveillance.
- Maintaining after hours support as needed.

Midland is about 100 kilometers from the G8 site in Huntsville so the tornado did not directly affect G8 operations. Extreme weather and infrastructure failure were identified by HIRA and the health unit had planned and prepared for the possibility. Therefore, the Midland tornado is being considered by the health unit as a component of the response to G8.

3. EVALUATION FOCUS

3.1. GOALS AND EVALUATION QUESTIONS

The goals of this evaluation are to describe the SMDHU G8 Summit planning and preparation activities and the response outcomes in order to:

inform local planning for future mass gatherings in Simcoe and Muskoka and

inform future planning specific to G8 or G20 by other jurisdictions.

In order to meet these goals, the evaluation covered nine components: Roles, Responsibilities and Authority; Public Health Hazard Identification Risk Assessment (HIRA); Food and waterborne hazard prevention activities; Surveillance; GIS mapping; Communications; Community Preparedness Education and Awareness; Incident Management System (IMS); and Resources.

Components and Evaluation Questions

Component	Evaluation Question(s)
Roles, Responsibilities and Authority	What opportunities and challenges were experienced with respect to multi-level jurisdictional planning for G8?
HIRA	Were the hazards adequately prioritized and was the health unit's response to the hazards that arose adequate? i) What predicted hazards arose? Was the planned response implemented? Were there changes made to the planned response and why? ii) What hazards arose that were not predicted? What response was implemented?
Food and waterborne hazard prevention	What strategies were implemented to reduce the risk of food and waterborne illness? Did prevention activities affect food and water borne incidence in Muskoka (or Huntsville) in June 2010 compared to June 2009?
Surveillance	For each indicator selected by the G8 Surveillance Subcommittee: Were we able to collect it with the frequency we intended? (i.e. Timeliness) Did the data capture everything we intended (e.g. all exposures, cases, warnings)? (i.e. Accuracy) What actions were taken (either SMDHU or other agency) based on surveillance of the indicator? (i.e. Usefulness)
GIS Mapping	What were the potential uses of GIS during G8? How was GIS actually used during G8? If used differently than planned, why? Did the previously prepared maps meet the response needs? Were maps available in time for the response? What improvements, if any, are needed for future mass gathering events? What resources were required to prepare for GIS services during G8?
Communications	What communications planning—internally and externally—took place? Did it contribute to a coordinated and consistent approach to SMDHU communications that was easy to implement? Did we provide timely, relevant and accurate information to our various audiences? (public, partners, staff) i) What communications did we get out to who, how, when, why? ii) What response did we get back from our communications?
Community Preparedness Education and Awareness	What Community Education and Awareness preparedness activities were developed and implemented prior to June 1, 2010? Were they effective in reaching the intended audiences? What changes could be made for future mass gathering events? Did Health Connection have easy access to the resources they needed to respond to G8 inquiries? Did we have sufficient staffing to respond to public inquiries?
IMS	Did the IMS structure facilitate a coordinated, integrated response with external partners? The reference point for this question is the two significant incidents that occurred during G8: an enteric cluster among ISU staff housed in temporary accommodation facilities (TAF) and a tornado that touched down in Midland and the ensuing power outage.
Resources	Were SMDHU human resources sufficient to meet anticipated and unanticipated demands?

3.2. EVALUATION METHODS

Evaluation Design

The evaluation was conducted using a prospective, cross-sectional design. Analysis was descriptive only, not predictive. Seven surveys were conducted of key external partners and staff, five tracking sheets were created and used for the evaluation, three process maps were created, three focused interviews/debriefs were conducted specifically for the evaluation and data were collected and analyzed from already existing databases and documents. See Appendix A for data collection and analysis details.

Resource Considerations

No additional resources were available for evaluating this incident. To accommodate the evaluation, data collection was therefore limited to data already being collected, short electronic surveys and focused discussions and interviews with key staff.

Data collection and analysis was conducted primarily by Corporate Planning and Evaluation and Communicable Disease Surveillance staff as a component of their normal work activities.

Evaluation Standards

Canadian Evaluation Society and American Evaluation Association standards were followed in the planning, implementation and reporting of this evaluation, specifically that:

- results will be used
- the methods used are feasible
- the data was collected within the legal authority of the health unit and with the consent of participants and
- the analysis is as accurate as possible.

The evaluation questions were approved by the SMDHU Incident Commander, the Information Officer and EOC Operations and Communication System Director, and the Manager of Emergency Management. The data collection followed the requirements of information privacy legislation, Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS) and the health unit's policies on research and data collection. Every effort was made to ensure protection of personal information and of personal health information of any respondents by storing the data in a secure drive on the health unit's server and destroying data according to SMDHU policies. Only data that was required for analysis was extracted from existing sources. The data was analyzed and the analysis cross-checked by qualified and experienced data analysts and epidemiologists.

4. RESULTS

4.1 ROLES, RESPONSIBILITIES AND AUTHORITY

Background

An integral part of the preparation included creating, maintaining and/or enhancing relationships with partners to the response. Clearly defining roles and responsibilities of the parties within the various zones was a key recommendation from those involved in the 2002 G8 Summit.

Establishing and reinforcing lines of communication with the various planning bodies was key to obtaining the information necessary to be prepared and to ensure clear communication channels during the response.

Evaluation Question

What opportunities and challenges were experienced with respect to multi-level jurisdictional planning for G8?

Data Sources

Minutes from meetings of G8 Health Sector Coordinating Committee, Public Health Subcommittee and the Internal G8 Planning Committee contained in the SMDHU centralized Emergency Response Folder.

Other key documents and email correspondence identified by the Medical Officer of Health, Associate Medical Officer of Health and Service Area Director, Health Protection Service.

Findings

Simcoe Muskoka District Heath Unit played a leadership role for Public Health during G8 planning, preparedness and response. Simcoe Muskoka District Health Unit is the Public Health Unit (PHU) responsible for Muskoka, including Huntsville and Deerhurst Resort. Roles and responsibilities of three levels of public health planning, preparedness and response included:

Individual agencies/organizations were responsible for the details of the planning for their own response.

The G8 Health Sector Coordination Committee guided the overarching approach and strategies, helped resolve difficulties, facilitated links between different parts of the sector and other partners, and ensured coordination with the planning for special health care measures within the security zones of the event.

The Public Health Subcommittee was responsible, within the strategic direction of the G8 Health Sector Coordination Committee, for developing specific strategies, actions and links for the public health sector in the affected region(s), and served a liaison function with the broader public health sector. The liaison function included:

Representatives communicated outwards to other colleagues and units in the sector. The subcommittee served as a point of contact to raise questions and bring issues to the coordinating committee.

MOHLTC, Emergency Management Board (EMB) was responsible for coordinating health system consequence management.

The Emergency Health Services Board (EHSB) was responsible with Health Canada for the ad hoc health care system for special health care measures for dignitaries, security personnel and other visitors; they were also the primary contact for EMS for consequence management.

The Ministry of Health and Long-Term Care (MOHLTC) G8 Health Sector Coordination Committee:

Included SMDHU representation.

Included Public Health Sector Subcommittee.

Was responsible for the provincial response and was the communication link between many federal agencies and committees and the Public Health Subcommittee and health units.

Initiated provincial health sector planning as early as January 2009 with invitation to neighbouring health units in April 2009.

In April 2009 identified that the planning, preparation and response included two zones:

An exclusion zone and the rest of the communities with 100 km of Huntsville.

Exclusion zone planning was to be led by federal government and security personnel.

Community - included consequence management planning to ensure communities within 100 km of Huntsville were prepared to deal with the possible influx of people and subsequent demands; purview of local and provincial authorities.

Health care to Internationally Protected People (IPP) was not a provincial or local public health responsibility.

The Public Health Subcommittee, which was co-chaired by the SMDHU Medical Officer of Health and Director, Health Protection Services:

Included members representing SMDHU and six other neighbouring PHUs, provincial representatives from MOHLTC (EMB, Surveillance Branch), the Ontario Agency for Health Protection and Promotion (OAHPP), and the Public Health Laboratory.

Established terms of reference in July 2009 with a mandate to:

Identify common public health risks associated with the G8 summit.

Develop a public health strategy and plan as part of the overall health sector strategy and plan.

Identify gaps and challenges for discussion at the Coordination Committee.

Inform the development of organization-level plans.

Serve as a liaison for the broader impacted public health sector.

Developed a provincial G8 Preparedness and Response Plan by January 2010.

Instituted discussions among PHUs leading to the development of Mutual Aid Agreements.

At the health unit level, a G8 Internal Planning Committee:

Began meeting in May 2009 at which time it:

Identified the local population as the health unit's concern and the need to work with local communities and agencies to identify needs, risks and response.
Identified the need to clarify roles and responsibilities early in the planning process and to obtain legal advice to that end.

Finalized terms of reference in June 2009.

Included six subcommittees:

Environmental Investigations and Surveillance
Disease Investigation and Surveillance
Finance/Administration and Logistics
EOC Operations and Communications
Community Health Planning
Communications Planning.

Finalized a SMDHU G8 Preparedness and Response Plan in March 2010.

Challenges

A review of the planning documentation post-G8 revealed that SMDHU experienced a variety of challenges related to:

Lack of clarity of roles and responsibilities of all parties

Uncertainty about funding

Shifting landscape of the Summits

Shifting timeframes.

Lack of clarity of roles and responsibilities of all parties

While it was recognized very early in the planning process that the provincial public health concern was the local population and excluded providing health care services to Internationally Protected Persons (IPPs) within the excluded (Red) zone, the details of public health's responsibilities were not clarified until some nine to 10 months into the planning process. Until September 2009, documentation indicates that there was an assumption that the local PHU would be required to work with Health Canada to provide a comprehensive food safety program to protect the health of IPPs in the Red Zone. This would involve provision of SMDHU Public Health Inspectors (PHI) onsite continuously during G8. No provision was initially made to allow public health staff into the Red Zone to carry on public health requirements as legislated by the Ontario Health Protection and Promotion Act (the Act) and the Ontario Public Health Standards (OPHS).

The health unit was mandated to enforce the HPPA to protect all persons from all health hazards and not just the Internationally Protected Persons from food hazards. However, this needed to be negotiated with the relevant federal agencies and committees through the MOHLTC. To make its case SMDHU sought legal advice to ensure their interpretation of the HPPA was legally accurate. Simcoe Muskoka District Health Unit identified this as a potential issue in May 2009, and wrote to MOHLTC October 5, 2009 asserting that participation in the comprehensive food surveillance program "goes well beyond the mandate and statutory

obligations of a local health unit" and asking Health Canada or MOHLTC to take a leadership role on the issue.

Negotiations between MOHLTC and Health Canada and discussions between SMDHU and MOHLTC regarding this issue continued through at least until the end of February 2010. Public health personnel were not pre-accredited for entry to the Red Zone. In the event of a confirmed health emergency in the security zone that would exceed the capacity of the health resources provided by the federal agencies, ISU personnel would escort health unit staff into and out of the zone necessary to deal with the emergency. No such emergency occurred and no health unit staff were required to provide services in the Red Zone during G8.

Simcoe Muskoka District Health Unit staff were required in the Yellow Zone, which was also a secured access area. By mid-June 2010 ISU provided clearance letters for staff who potentially needed access to the Yellow Zone to conduct field investigations leading up to and during the G8.

Uncertainty about funding

Budgets and the source of funding were unclear. In March 2009 at the direction of the MOHLTC the SMDHU provided a complete costing estimate. Negotiations for funding were between the MOHLTC and the federal agencies and it was known by early fall that funds would be available only for incremental costs (such as overtime during G8). The SMDHU provided preliminary inspections and food handler training at the Deerhurst Resort prior to the G8 in conjunction with Health Canada and their Comprehensive Food Program. The health unit was funded for this time spent by the SMDHU local PHI.

By December 15, 2009 consequence management funding had been segregated from the G8 Security budget and by the end of January 2010 the SMDHU was informed that no federal funding would be available for any planning, additional preparedness or response activities. Funding possibilities were investigated within the MOHLTC. However, no funding became available before G8.

As a consequence of the uncertainty over funding, SMDHU identified services that could be gapped in order to meet the needs for G8 and adjusted redeployment of staff, while still maintaining essential services.

Shifting landscapes and shifting timeframe of the Summits

The initial scope of the G8 was a three day event in Muskoka. The introduction of the G20 as a companion event, created a shift in planning parameters. The G8 event was pared to a one and a half-day Summit in Muskoka and coupled with a one and a half-day G20 Summit to be held in Toronto. The decision to move the G20 Summit to Toronto was announced in December 2009, six months before the scheduled event. Simcoe Muskoka District Health Unit's focus remained on the G8 Summit. Projections regarding the impact on the area were revised as fewer media, security agents and protesters were expected to be in Muskoka. The extent of the reduction was unknown. Holding a G20 Summit immediately following a G8 Summit in a different location had not previously been done.

Provincial focus for planning then shifted to the G20 Summit in Toronto. It was recognized by the Health Sector Planning Committee that G8 and G20 planning should continue in tandem, but that put extra pressure on the planning process due to tighter time frames to plan for Toronto.

Opportunities

Despite these and other challenges, SMDHU also identified opportunities that arose from planning and preparing for the G8 Summit, including:

- increased knowledge, awareness, and practice for mass gatherings and emergency management
- development of Mutual Aid Agreements between PHUs and
- the opportunity to document the process and share lessons learned.

Increased knowledge, awareness and practice for mass gatherings and emergency management

The SMDHU incorporated standard planning processes into a unique situation. Some of those practices included:

- established terms of references within a few months of commencement of planning
- identifying roles and responsibilities over areas where it had influence and control and
- identifying objectives, mandates, products and outcomes.

The health unit participated in several exercises from which members learned more about content (e.g. CBRN), emergency management practice (e.g. command and control), communication processes and roles and responsibilities of other agencies.

G8 planning and preparedness also encouraged the development of new relationships with other agencies and strengthened existing relationships, with respect to emergency management and surveillance. This was particularly pertinent at the local level where SMDHU staff worked closely with municipalities and community agencies to identify risks and strategies to mitigate or respond to those risks.

Mutual Aid Agreements between Public Health Units

Simcoe Muskoka District Health Unit negotiated and signed Mutual Aid Agreements with four neighbouring Public Health Units (PHUs) or regional municipalities that remain in effect for future emergencies. These agreements will allow the MOH to ask for and receive assistance from other health units during an emergency or incident in which SMDHU does not have the capacity to respond, and to respond to their request for assistance.

The Mutual Aid Agreements took several months from the beginning of discussion to final signing. Public Health Units that are integrated in a municipality or regional government do not have the legal authority to enter into this type of agreement. In that case, the agreement is between SMDHU and the regional municipality. Legal consultation was required.

Documenting the process and sharing lessons learned

Extensive documentation of meetings and correspondence enabled the planning, preparedness and response process to be reviewed, analyzed and shared. Simcoe Muskoka District Health Unit implemented documentation and records management processes early in the planning stage. While compliance was not perfect, enough documentation was available to complete an evaluation.

Summary of Findings

Planning for G8 required the cooperation and coordinated actions of multiple levels of government and a multitude of non-government organizations and agencies. A post G8 document review demonstrated that SMDHU had a leadership role in the public health planning for G8 and identified its roles, responsibilities and accountabilities early in the process. However, ensuring that other levels of government understood the health unit's legislated requirements and negotiating through multiple levels was a challenge. This challenged was exacerbated by uncertainty, finally lack of funding and by the shifting landscape and timeframes.

Despite challenges, the experience provided an opportunity for SMDHU to increase knowledge, awareness and practice for mass gatherings and emergency management. Legacies of its roles and responsibilities include the development of Mutual Aid Agreements and the documentation and sharing of the planning process.

4.2 HAZARDS IDENTIFICATION RISK ASSESSMENT (HIRA)

Background

The *G8 Summit Preparedness and Response Plan* identified common hazards associated with mass gatherings and outlined potential public health mitigation and response strategies to address these risks. The evidence-based Hazards Identification Risk Assessment (HIRA) identified and prioritized eight categories of public health hazards. Those events determined to be the most likely to occur included:

Infectious and Contagious Diseases

Food Related Hazards

Environment/Severe Weather Emergencies

Injury Related & Health & Safety Hazards

Drinking Water Emergencies.

Less likely events were:

Technological and Infrastructure Emergencies.

Hazardous Material Emergencies and Bioterrorist Events.

Evaluation Questions

Were the hazards adequately prioritized and was the health unit's response to the hazards that arose adequate?

a) What predicted hazards arose? Was the planned response implemented? Were there changes made to the planned response and why?

b) What hazards arose that were not predicted? What response was implemented?

Data Sources

In order to assess whether the hazards identified were accurately predicted and whether the health unit responded according to plan, data were retrieved from:

Tracking sheets completed by program managers

Action logs

IMS meeting minutes.

Findings

Four of the predicted potentially hazardous events occurred during the G8 response period (June 17 to 26, 2010):

One reported sewage related incident in a transient camp.

One enteric cluster involving nine ISU staff temporarily located in Huntsville with a possible link to a food or water related hazard or infectious and contagious disease.

Two extreme weather alerts:

a tornado touching down in Midland and
an additional storm where no response was required.

Power outage due to Midland tornado.

Response to the sewage related incident was in accordance with established protocols. No illness or injury resulted.

For the enteric cluster the response was as per existing protocols. Staff had been assigned for on-call and responded accordingly. The response included:

Inspected TAF

Inspected ER clinic

Inspected temporary food services

Inspected temporary food premises

Inspected water systems

Provided food handling instructions to temporary food services and Ontario Provincial Police (OPP)

Promoted hand hygiene

Onsite communicable disease investigation

Isolated symptomatic patients

Cohorting of cases

Collected stool samples

Heightened surveillance

Communication and collaboration with external stakeholders.

After the tornado, SMDHU responded by working with the Simcoe County EOC and providing the following services:

Assessment of evacuation centre.

Public health messaging coordinated with County of Simcoe and Town of Midland.

Posted information on SMDHU website with links to and from municipal partners.

Public Health Nurse assigned to the evacuation centre for assistance and/or support as needed.

Health Connection line available during regular business hours.

Continued to provide after-hours, on-call public health staff available to respond to any urgent public health issues.

Response to the power outage was also as per pre-established protocols and included the following activities:

Secured vaccine fridge at Midland office.

16 physicians contacted re: vaccine management.

Food premises and water systems contacted, assessed and provided information relating to food and water safety.

Long-term care facilities contacted/assessed/supported.

Issued Public Service Announcement to media, municipal partners, and vulnerable population leads on food and water safety during a power outage.

Provided after-hours message on health unit phone line providing information on food and water safety during a power outage.

Summary of Findings

The events that occurred fell within the eight priority categories identified using the Hazard Investigation Risk Assessment. There were no identified events that fell outside the priority categories. Health unit response to these events was according to protocol. While cause and effect cannot be determined, health unit actions most likely prevented the spread of illness and the loss of valuable vaccine.

4.3 FOOD AND WATERBORNE HAZARD PREVENTION

Background

The Hazard Identification Risk Assessment identified foodborne and waterborne illness to be most likely to occur in this event and as a result this was an area of focus for the evaluation.

Evaluation Questions

1. What strategies were implemented to reduce the risk of food and waterborne illness?
2. Did prevention activities affect food and waterborne incidence in Muskoka (or Huntsville) in June 2010 compared to June 2009?

Data sources

Health Protection Services (HPS) staff documented their prevention activities leading up to and during G8.

The incidence of foodborne and waterborne disease was compared for the periods of May 1 to July 31, 2009 and 2010.

Findings

Table 1: Food and waterborne illness prevention activities

Type of activity	Dates
Safe Water: routine assessment/compliance activities but concentrated in G8 area.	for approximately four months preceding event.
Food Safety: Frequency of inspection was unchanged however PHIs in Huntsville area scheduled inspection activities to reach priority sites prior to G8 event.	for approximately four months preceding event.
In conjunction with Health Canada, enhanced food handler training was developed and provided at Deerhurst resort in preparation for event.	early June
Pre-opening plan review and inspection of temporary food service sites.	early June through week of G8
Food source identification and inspection verification with CFIA and Health Units for temporary food service sites.	early June through week of G8
Advanced liaison with security forces to obtain security clearances for key inspection staff.	early June through week of G8
Additional inspections of expanded food service sites at existing food premises.	end of May to mid June
Liaise and support Health Canada in verification of food and water suppliers.	April through mid June
Obtain bottled water samples at request of Health Canada.	mid June
Weekly meetings with cross program field staff ensuring full communications of issues and priorities, and efficient coordinated approach.	end of May to mid June

Table 2a: Reported, Lab-confirmed Foodborne and Waterborne Disease* Incidence Among Muskoka District Residents, May to July 2009 and 2010**

	May 1 to July 31, 2009	May 1 to July 31, 2010
Number of reported, lab-confirmed food/waterborne disease cases among Muskoka residents:	6	1

Table 2b:Reported, Lab-confirmed Foodborne and Waterborne Disease* Incidence Among Simcoe Muskoka District Residents, May to July 2009 and 2010**

	May 1 to July 31, 2009	May 1 to July 31, 2010
Number of reported, lab-confirmed food/waterborne disease cases among Simcoe Muskoka residents:	77	72

* note that foodborne and waterborne diseases are defined as the following: amebiasis, botulism, campylobacter, cryptosporidiosis, cyclosporiasis, food poisoning (all causes), giardiasis, hepatitis A, listeriosis, salmonellosis, shigellosis, verotoxigenic E. coli and yersiniosis.
** note that cases are assigned to months based on "Episode Accurate Date", which is a hierarchy of the following dates: 1. Onset Date; 2. Clinical Diagnosis Date (not currently available in Ontario's iPHIS); 3. Specimen Collection Date; 4. Lab Test Date; 5. Reported Date.

Summary of Findings

Health Protection Services staff conducted inspections in accordance with the SMDHU G8 Preparedness and Response Plan to reduce the risk of food and waterborne illness which were considered to be among the highest public health concern (Table 1).

There was no increase in foodborne and waterborne disease among Muskoka District residents or among Simcoe Muskoka District residents, between May to July 2009 and 2010 (Table 2a and 2b).

HPS staff also noted:

The Small Drinking Water inspection program is new with new legislation and impacts of the program may not yet be observable.

Large volumes of food originated from CFIA plants or inspected plants within other health unit areas. Distribution and transport were critical control points to assess as well as compliance history.

Advance liaison with security forces was critical to accessing sites requiring inspection.

Some existing premises expanded their facilities well beyond typical operation, or created additional outdoor temporary food service areas, requiring additional inspections.

The weekly meetings consisted of Emergency Management, Food Safety and Safe Water program field staff. This allowed comprehensive and coordinated inspection and field response leading up to the G8.

4.4 SURVEILLANCE

Background

A monitoring and surveillance protocol including active, passive and syndromic surveillance was developed by the SMDHU G8 Disease Investigation and Surveillance Subcommittee. Planning and preparation for the G8 included establishing an Emergency Department Surveillance System (EDSS), developed by the Queen's University Emergency Syndrome System Team (QUESST) in partnership with Kingston, Frontenac and Lennox & Addington Public Health Unit and SMDHU. During the summer of 2009 the SMDHU invited CEOs of all hospital corporations in Simcoe Muskoka to participate and made presentations to CEOs and others. The system collects ongoing real time indicators of total hospital admissions and emergency room visits. This would enable early detection of community outbreaks of infections and decrease public health response time.

Negotiations between SMDHU, Kingston Frontenac and Lennox & Addington PHU, and local hospital corporations resulted signed agreements from four of six local hospital corporations to participate in the syndromic surveillance system. In addition to total admissions and emergency room visits, the infectious syndromes tracked included emergency room visits for: gastroenteritis, respiratory, fever/influenza like illness (ILI), asthma, dermatological infectious, neurological infectious, severe infection and other.

Table 3 outlines the planned schedule for monitoring categories of indicators. Appendix B details the 30 indicators along with the data sources and definitions. Most indicators were monitored on a daily basis, except those for which data were not available on weekends and for syndromic surveillance. Syndromic surveillance was monitored more frequently, starting with every two hours between 8:30 and 16:30 June 17 to 24, 2010 to hourly from 16:30 June 24 to June 26, 2010 (Table 3). The monitoring began June 16, 2010 and continued until June 30, 2010.

Table 3: Planned schedule for monitoring surveillance data.

Data Source	Monitoring schedule
Syndromic Surveillance (QUESST)	June 17 to 24, 8:30 to 16:30: every two hours June 24 at 16:30 to June 26: every hour June 27 to June 30, 8:30 to 16:30: every two hours
Foodborne Illness Complaints (Hedgehog)	Daily, except weekends
Active Boil/Drinking Water Advisories (Program Files)	Daily, except weekends
Active Bathing Beach Postings (Beach DB)	Daily, except weekends
Total Call Volume through Switchboard (NFocus)	Daily, except weekends
Public Inquiries through Health Connection – Core and HPS (NFocus)	Daily, except weekends
Public Inquiries through Health Connection – CD & Sexual Health (NFocus)	Daily, except weekends
All other data	Daily

Evaluation Questions

For each indicator selected by the G8 Surveillance Subcommittee:

1. Were we able to collect it with the frequency we intended? (i.e. Timeliness)
2. Did the data capture everything we intended (e.g. all exposures, cases, warnings)? (i.e. Accuracy)
3. What actions were taken (by either SMDHU or another agency) based on surveillance of the indicator? (i.e. Usefulness)

Data Sources

An evaluation tracking sheet was completed by the lead epidemiologist for surveillance to assess whether the indicators in the surveillance protocol were able to accurately identify issues in a timely manner and to describe whether or not the identification of issues led to a response. Indicator definitions and sources are in Appendix B.

Table 4: Surveillance Indicators with Higher than Expected Values, June 17 to 30, 2010

Area	Data Source	Indicator	# of days with yellow code*	Actions taken by EOC	Notes
Infectious Diseases	QUESST	Total Hospital Admissions¥	1	0	The number and type of admissions were not of concern
		Fever/ILI ER Visits¥	1	0	The increase was not significant or sustained
		Dermatological Infectious ER Visits¥	1	0	The increase was not significant or sustained
	CD Intake or email (Tb)	Reportable diseases (unusual or cluster)	1	Routine investigation completed	
	MOHLTC (Delayed by one day)	TeleHealth clusters (gastro, resp, fever/ILI, rash, rash/fever, H1N1, neuro/chemical and mumps) for Ontario and Simcoe Muskoka¥	5	0	Increases were based on very small counts. Other indicators monitored but produced no further evidence of activity
		# diseases reported by TAF (Temporary Accommodation Facility – RCMP/OPP)	1	Outbreak investigation completed	
Environmental Health	Hedgehog	Foodborne Illness Complaints¥	1	Routine investigation completed	
		Extreme Weather Warnings¥	1		
	Other	Other unusual activity (e.g. CBRN, critical infrastructure damage)	1	SMDHU emergency planning protocols implemented	
Community Health	baseline: daily average between Jun 15-30, 2009; range = min/max	Public Inquires through Health Connection – Core and HPS	1	0	Call volumes expected to peak on Mondays
		Public Inquires through Health Connection – CD and Sexual Health	1	0	Call volumes expected to peak on Mondays

¥ = as specific to Huntsville area as possible
* **YELLOW** – warning, above expected range;

Summary of Findings

Epidemiology staff were able to collect the data for the indicators in a timely manner. For example, the epidemiologist was able to access the number of injury-related visits to the Midland hospital between 18:00 and midnight on June 23, 2010, the day the tornado hit through the syndromic surveillance system. The system was also valuable for what it did not detect. It was invaluable during the enteric cluster at the Temporary Accommodation Facility (TAF) for security staff, as it demonstrated the lack of a large scale community outbreak, which impacted the response.

A few limitations to the accuracy and/timeliness of the routine surveillance and monitoring were observed:

The QUESST system indicators analyzed during G8 (hospital admissions and ER visits) did not include patients who lived outside the area.

Hourly surveillance was not feasible when doing other time-sensitive tasks.

Daily surveillance reports were restricted to the Bracebridge and Huntsville hospitals.

Telehealth clusters (gastroenteritis, respiratory, fever/ILI, rash, rash/fever, H1N1, neuro/chemical and mumps) for Ontario and Simcoe Muskoka, provided by MOHLTC were delayed by one day.

Statistical alarms created by EARS (Early Aberration Reporting System, which is freeware from CDC that detects aberrations) analyses may result in false positives, especially when based on small counts. This resulted in five days in which the values for infectious diseases reported by the MOHLTC Telehealth were higher than expected. However, other indicators were also monitored but produced no further evidence of activity.

4.5 GIS MAPPING

Background

It was anticipated that response to incidents or events during G8 may require precise geographical mapping in order to understand the scope of the event and to assign staff to the response. New software and processes were developed to meet the anticipated need. From January to June 2010 the health unit devoted 1 FTE to developing the GIS capacity.

Prior to developing maps and mapping capacity for G8, a GIS technician was contracted to prepare a system. This involved:

Analyzing existing spatial datasets and documentation.

Creating standards, policies and procedures.

Updating existing data and documentation within those standards.

Prioritizing files, particularly for potential G8 purposes.

Creating detailed documentation of all processes.

Products for use during G8 included:

Standards for base map templates.

SMDHU map templates.

Printed maps: Four wall maps at different scales showing G8 area—for posting in the IMS G8 room.

Intranet maps: .pdf maps for G8 that show various premises/locations within Huntsville area—display on Intranet, for use by staff for response purposes.

ArcGIS Explorer maps: Setup local files and train approximately 35 staff to use ArcGIS Explorer to develop interactive maps as needed.

Evaluation Questions

Given the investment in the development of this tool to assist with G8 response, the following questions were included in the evaluation:

What were the potential uses of GIS during G8?

How was GIS actually used during G8?

If used differently than planned, why?

Did the previously prepared maps meet the response needs?

Were maps available in time for the response?

What improvements, if any, are needed for future mass gathering events?

What resources were required to prepare for GIS services during G8?

Data sources

An online survey was sent to 42 staff who had access to or who might have the need for GIS maps during G8. The invitation and link to the survey was sent via internal email and participants were blind copied to ensure anonymity. The survey was open from July 5 to 15, 2010 with a reminder sent on July 12, 2010. Twenty-one staff completed the online survey about GIS produced maps used, for a response rate of 50 per cent.

Epidemiology staff kept a tracking sheet of requests for customized maps.

Five staff who used GIS produced maps during G8 were interviewed to obtain further information about their use of GIS, successes, challenges and recommendations.

Findings

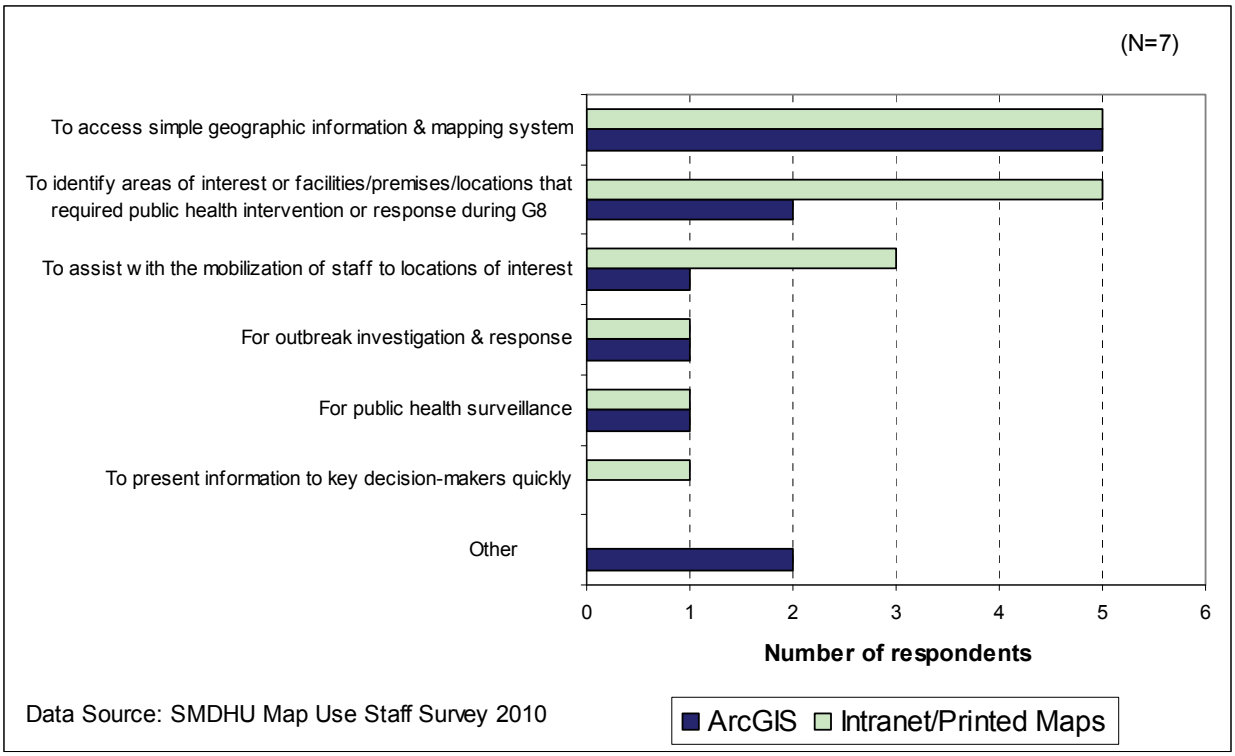
Of the 21 respondents to the online survey, seven indicated that they had used ArcGIS Explorer, six confirmed the maps they accessed were accurate and five agreed that the maps were produced in time. Mapping issues noted by respondents included: data did not transfer correctly; mapping function was slower than expected. One respondent added: "*Google maps helped me locate some surrounding security sites faster than ArcGIS Explorer map.*"

Participants in the key informant interviews confirmed that the ArcGIS Explorer software is slow and difficult to use. Inaccurate geographical coordinates led to some of the locations being mapped inaccurately and some locations not being mapped at all.

Seven respondents to the online survey identified that they had used the intranet or printed maps, six said they were accurate and five said they had them on time. Epidemiology staff received two requests for customized maps during G8. One request was related to the power outage in Midland/Penetanguishene area following the tornado in order to identify high risk premises (i.e. physician offices, long-term care facilities, day nurseries) located within the affected area. The second was a test to elaborate on an incident experienced during the G8 in order to determine the impact if the event had been more significant. The first map took three hours to complete. The second map took three and a half hours to complete.

The most common use of the maps during G8 was to access simple geographic information and to identify areas of interest or facilities/premises/locations that required public health intervention or response (Figure 1).

Figure 1. Purposes of ArcGIS Explorer and intranet or printed map use among SMDHU staff during G8 (n=7)



According to key informant interviews, there was limited opportunity to use the new functionality available through GIS during G8 for a variety of reasons including the inaccessibility of the software while in the field. In those cases, staff relied on static pre-printed maps and in many cases their own familiarity with the region. Respondents to the online survey provided some insights that will be useful for recommendations. Additional comments:

> ". . . needs to be enhanced to assist with all areas of our day to day work",
>
> "I was familiar with the area so I didn't need to use. If I had needed to use it, it would have been of great benefit."
>
> "Can see the value of this tool if we actually experienced an emergency but did not have occasion to use it during G8."
>
> "The maps would have been very useful if there was an infectious disease or environmental issue to address within the broad context."
>
> "The potential for GIS is great. The program load time is a bit of a deterrent to use. We need to continue to build skills and test the capacity of the system."
>
> "I was involved in some of the planning and development of the GIS system, but didn't use it during G8."

Summary of Findings

The use of GIS mapping for G8 response was limited by access to the technology, the speed of the technology, the accuracy of data within the application and the small number of incidents requiring response during this period. According to staff who participated in the evaluation, future use would depend on:

Building use of maps into program planning and delivery.

Creating more ready-made maps for the entire County and District so staff will become familiar with them and get used to using them.

Using the ArcGIS Explorer to become more familiar with the functions; improved user guide.

Training to use the software and to use GPS units to obtain accurate coordinates for sites.

Collaborating with other agencies who have data and maps already in place (e.g. County of Simcoe).

Continuing with the development of the GIS foundation that was laid in the months leading up to G8.

4.6 COMMUNICATIONS

Background

Detailed communication planning occurred at the federal, provincial and local levels. At the federal level, a partnership called GPPAG (Government Partners in Public Affairs Group), led by Public Safety Canada, was formed to provide for coordinated communications that would enhance and support partners' normal communications activities. Simcoe Muskoka District Health Unit was a partner in this group and benefited from the media monitoring and sharing of information.

Provincially, the MOHLTC G8 Public Health Subcommittee included representation from SMDHU communications to facilitate the sharing of communications strategies and the identification of issues and gaps. As a result of the initial uncertainty about how MOHLTC and federal departments involved in G8 planning would plan their communications, SMDHU developed a G8 communications framework that was adopted with input from members of the subcommittee. The subcommittee created a small public health communication work group. The group met monthly from January 2010 onwards to discuss G8 and G20-related communications issues and strategies and to ensure consistency of messaging.

The SMDHU established an internal G8 communications subcommittee to develop detailed strategies and a work plan for G8 communications. The subcommittee's planning was informed by the work of the other internal planning subcommittees. A small writing team assisted with the creation of key messages and educational and promotional materials on the health topics identified in the HIRA exercise. Implementation of the communications plan occurred between April 1 and June 28, 2010.

Evaluation Questions

1. What communications planning—internally and externally—took place?
2. Did it contribute to a coordinated and consistent approach to SMDHU communications that was easy to implement?

Data sources

Debriefing of communications staff.

Findings

A coordinated and consistent approach to SMDHU communications that was effectively implemented included:

A communication cycle established to support internal and external communication activities.

Adjustments to the communication cycle to integrate with activities at the provincial and federal level when information was shared from the provincial and federal governments.

The integration of linkages with the external GPPAG into the communications cycle.

A system of placing GPPAG daily media summaries in the IMS folder with important components highlighted.

Key messages planned with partners (i.e. outbreak potential in the RCMP camp).

A web portal (external and internal).

Internal issues that negatively impacted effective, efficient coordinated communication:

Timely communication in light of rapidly changing events (tornado).

Lack of clarity related to process of approvals for external communications - in particular roles of the Information Officer/EOC Director and the Public Inquiry/Community Awareness Lead.

Using the blog as the main daily update vehicle for staff took more time for drafting, approval and posting of content than using normal communication practices, such as sending key information via email.

External issues that negatively impacted effective, efficient coordinated communication:

External planning was slow to start, but contributed to an overall coordinated and efficient communications response.

Duplication of GPPAG messages from various partners sent to MOH, resulting in some info being shared unnecessarily.

3. Did we provide timely, relevant and accurate information to our various audiences? (public, partners, staff)

i)What communications did we get out to who, how, when, why?

Data sources

Tracking activities included response received from the media related to communications via press release or website, as well as overall hits to our website.

Media

Two press releases

Newspaper ad re: Huntsville office closure.

Partners

One situational update

Five Health Faxes

Air Aware Newsletter article

Various emails.

General Public

G8 Portal on website.

Dissemination of checklist: Tips for protecting your health during mass gatherings – posted on website and available in hard copy in Huntsville and area.

Display at G8 Welcome Centre in Huntsville.

Distribution of handwashing decals and posters for public venues and restaurants in Huntsville and area.

After-hours voice messaging re: power outage.

Staff and Board

Seven intranet front page blogs

13 emails

G8 Response Portal on intranet.

ii) What response did we get back from our communications?

Data sources

Tracking activities included response received from the media related to communications via press release or website, as well as overall hits to our website.

(See also: Community Preparedness Education and Awareness section of this report).

Media Inquiries

10 media inquiries between May 31 and June 16, 2010 from print, radio and television.

All media inquiries were from local media.

Topics included: G8 website; staffing for G8; G8 preparations; evacuation centre; reproductive health focus report and G8.

Media Coverage

Between May 31 and June 28, 2010 four known articles related to G8 and public health were printed in local newspapers, four news spots/features were broadcast on local television and four interviews were broadcast on local radio.

SMDHU Website – G8 Portal

Between May 24 to July 2, 2010 the G8 portal pages (18 pages) were viewed a total of 993 times.

Average time on a page was 53 seconds.

The G8 portal home page was viewed 374 times.

Other popular pages included: Community Partners Information (152 hits), SMDHU G8 Plan (139 hits).

Ontario Public Health G8 Plan (55 hits), Personal Planning (46 hits), Food Safety (32 hits), Weather (28 hits).

Most hits on the G8 portal home page were from the following areas: Barrie (86), followed by Toronto (59), Orillia (23), and Bracebridge and Huntsville (16 each).

Views from other areas in Simcoe Muskoka included: Collingwood and Midhurst (12 each).

Summary of Findings

1. Demands for G8 related information was low and focused on the preparedness phase reflecting the limited public health impact of the event.
2. Efforts made to coordinate communications across agencies were considered successful.
3. Given the circumstances, there was no need to be more proactive than we were with respect to the media. The goal was to be low key during the event. If we hit the news we failed.
4. Additional efforts are required to ensure streamlined approvals for communication and more timely communication internally.

4.7 COMMUNITY PREPAREDNESS EDUCATION AND AWARENESS AND PUBLIC INQUIRY

Education and Awareness – Background

The Community Health subcommittee of the SMDHU G8 Planning committee identified the importance of identifying potential community health issues and public health impacts associated with G8 and then to develop and disseminate key messages to vulnerable populations during the G8 event.

Two tools were developed to increase awareness of emergency preparedness in advance of G8:

G8 Public Health-Related Considerations for Clients checklist

G8 Public Health-Related Planning Considerations checklist.

Evaluation Questions

What Community Education and Awareness preparedness activities were developed and implemented prior to June 1, 2010?
Where they effective in reaching the intended audiences?
What changes could be made for future mass gathering events?

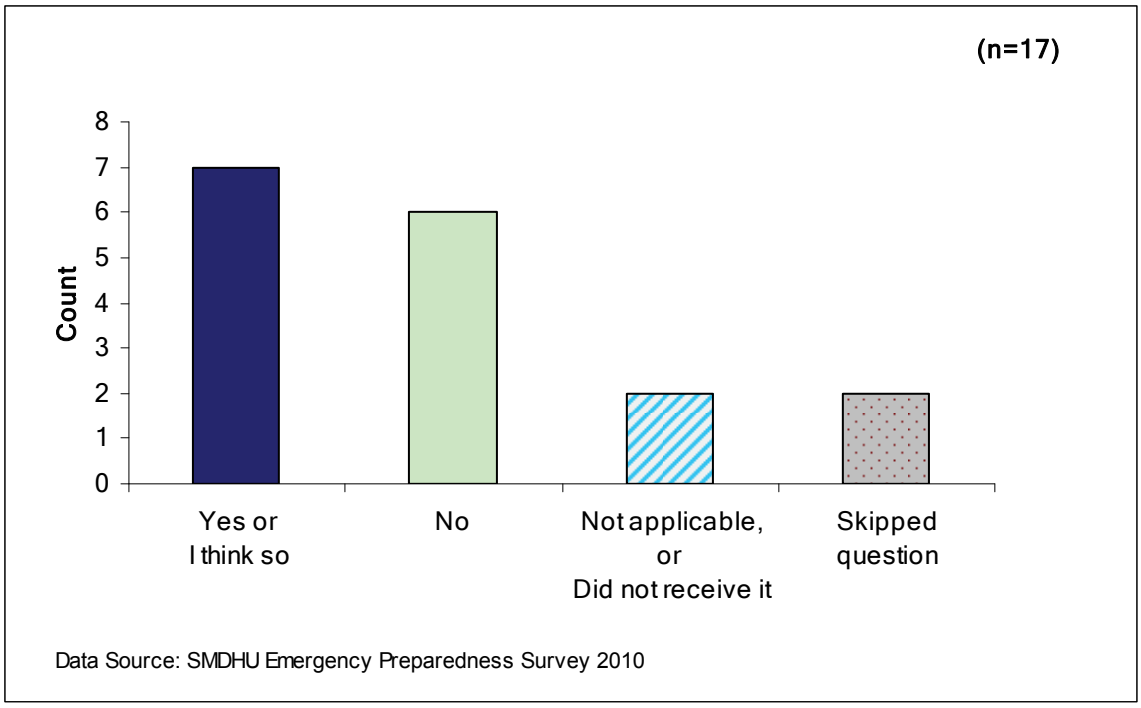
Data Sources

Online Survey of Checklist Recipients: To assess the reach and effectiveness of the checklists, an online survey was forwarded to 49 external partners and 29 SMDHU staff who had been sent the checklists in May 2010. Of the 78, 12 were returned as undeliverable and 20 completed the survey, for a response rate of 30 per cent.

Findings – G8 Public Health-Related Considerations for Clients checklist

Seventeen of the 20 people who completed the survey received the checklists. Of the 17 who received the checklist, seven used it as a tool to help clients become better prepared in the case of an emergency (Figure 2). Only one respondent identified an additional item that would be useful in an emergency that was not on the checklist: a resource *"related to mental health."*

Figure 2: Did you or others in your organization use the G8 Public Health-Related Considerations for Clients checklist as a tool to help clients become better prepared in the case of an emergency? (n=17)

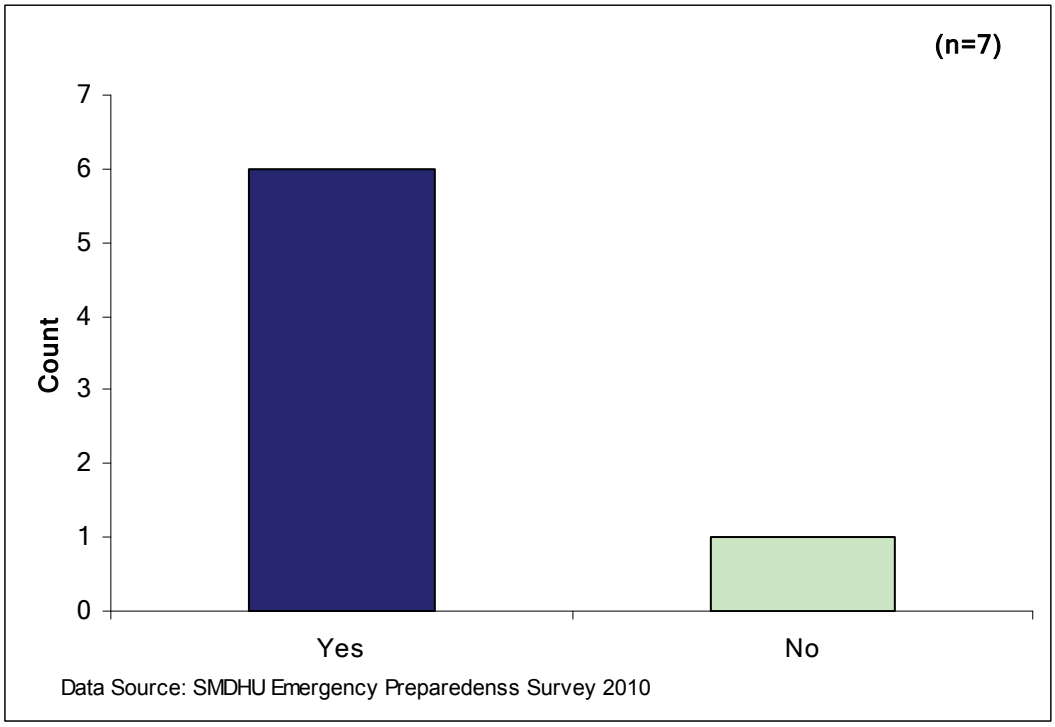


Of the 17 respondents who received the checklist, three indicated they would continue to use the SMDHU *G8 Public Health-Related Considerations for Clients* checklist with their clients, four said they might use it in the future and no one reported they would not continue to use the checklist. One respondent added: *"The checklists provided good guidance for emergency preparedness in general and for the G8 specifically - they were an excellent tool for staff training and will continue to be useful into the future. SMHDU put tremendous effort into G8 planning and our community appreciates this leadership effort."*

Findings – G8 Public Health-Related Planning Considerations Checklist

The *G8 Public Health-Related Planning Considerations* checklist was sent only to community partners. Of the 10 community partners that responded to the survey, seven recalled receiving the checklist. Six of them used it either some or most of the time leading up to G8. The same number also used this checklist to be better prepared for any G8 emergency (Figure 3).

Figure 3: Did your organization use the G8 Public Health-Related Planning Considerations checklist to be better prepared to respond to any G8 emergency? (n=7)



Summary of Findings – Education and Awareness

It appears as though both checklists were useful tools leading up to G8 and will continue to be used by both internal staff and community partners in future.

Public Inquiry – Background

Health Connection service responds to public inquiries related to public health. The service includes Health Connection Core which responds to general inquires and separate service specific lines for Communicable Disease, Health Protection Services, and Sexual Health. Health Connection services and the main switchboard provide first point of contact for the public for everyday queries, as well as during an emergency or incident such as G8.

Evaluation Questions

Did Health Connection have easy access to the resources they needed to respond to G8 inquiries?

Did we have sufficient staffing to respond to public inquiries?

Data Sources

1. A comparison of Health Connection and switchboard activity between the same periods in 2009 and 2010 (June 14 to 28, 2010), was used to determine if there was any increase in public inquires.
2. An online survey of Health Connection staff conducted after the G8 Summit in July, 2010 to determine if staff had the resources they needed to respond to any G8 incidents of events in a timely fashion. The online survey was created using Survey Monkey software and was sent via email to staff working in Health Connection Services, including the areas of: Core, Communicable Disease (CD) and Health Protection Service (HPS). The survey was

Findings

There was no increase in calls to the Switchboard and Health Connection lines from June 14 to June 28, 2010 compared to the working days between June 15 to 30, 2009, (Table 5). Of all the calls that came into the Health Connection lines during June 14 to 28, 2010 only eight were coded as being G8 related.

Table 5: Comparison of daily calls to Health Connection Lines, 2009 to 2010

	June 15 to 30, 2009		June 14 to 28, 2010	
	Average	Daily Range	Average	Daily Range
Calls to switchboard and CSR	219	123 to 282	182	138 to 202
Calls to Health Connection Core	41	17 to 65	40	21 to 52
Calls to HPS line	35	10 to 54	39	22 to 55
Calls to CD line	6	0 to 13	9	0 to 12

Source: NFocus Call Center Performance Analysis Database, Simcoe Muskoka District Health Unit, extracted June 25, 2010.

Health Connection staff had access to the resources they needed in order to be prepared to respond to G8 related inquiries. When asked what strategies they used to prepare to respond to G8 related inquires, 10 survey respondents indicated that they reviewed the accessibility of resources on the SMDHU web site and on the intranet, six explored direct links to external sites and three reviewed content of resources provided by SMDHU (Figure 4). Six of the respondents felt very well prepared, four somewhat and one not very well prepared (Figure 5).

Figure 4: What strategies did you use to prepare to respond to G8 related inquiries? Please check all that apply. (n=11)

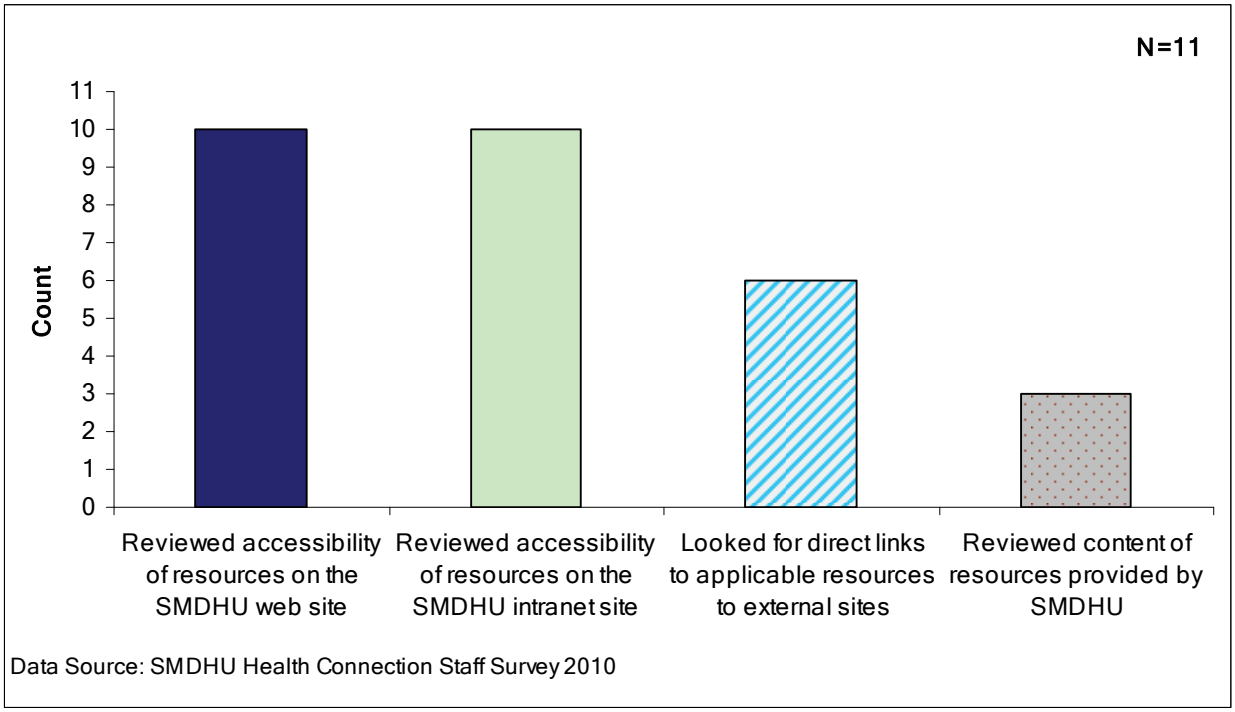
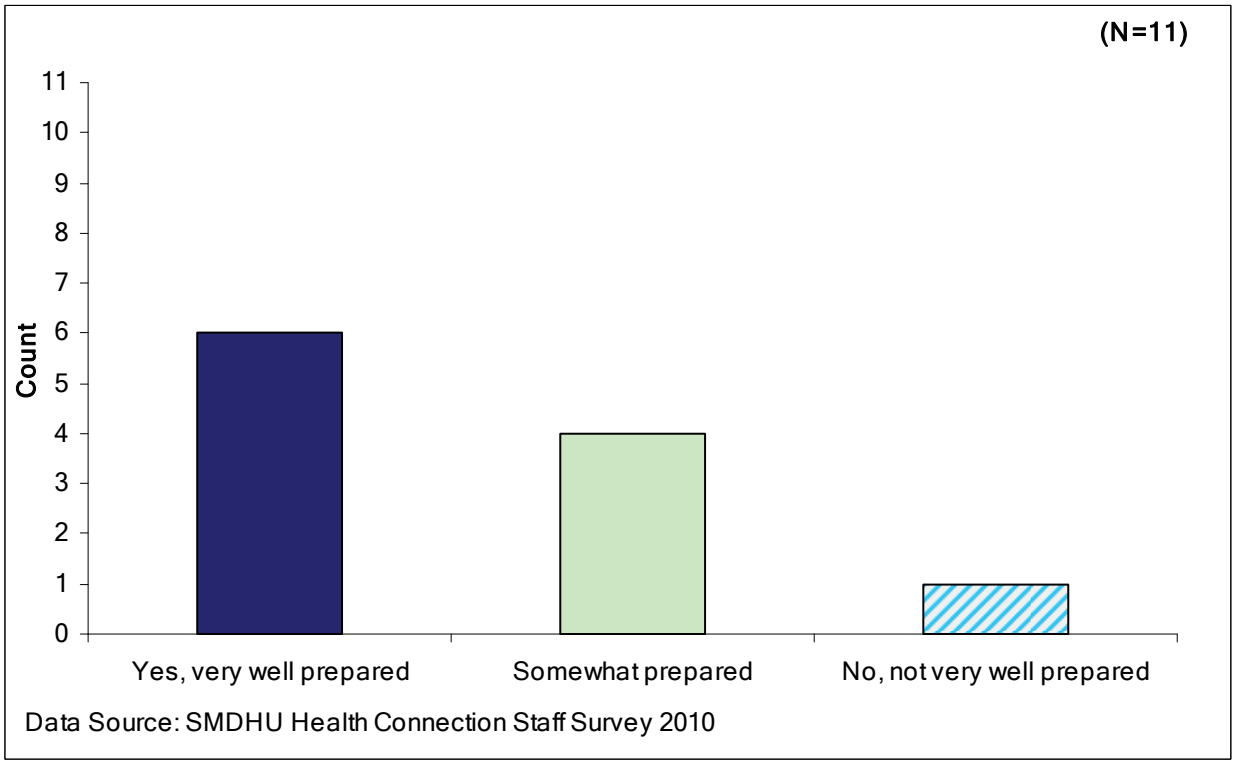


Figure 5: Did you feel prepared to respond to G8 related inquires? (n=11)



Summary of Findings – Public Inquiry

The G8 Summit was not responsible for an increase in the demand on our Health Connection service. Results show that Health Connection staff had access to the information they needed to respond to any public inquiries regarding G8 in a timely manner, and that sufficient staffing was in place on the Health Connection phone lines during the time period leading up to and during G8 (June 17 to June 30, 2010). Redeployment of staff to Health Connection was not required.

4.8 INCIDENT MANAGEMENT SYSTEM (IMS)

Background

The role of the Incident Management System is to facilitate and support an integrated and coordinated response to an incident or event. We define “integrated” as: Unified management of all aspects of the response beginning with identification of an illness or problem to the identification of public health impacts and response through to resolution. A coordinated response is defined as actions taken by parties which complement each other (do not conflict or significantly overlap in roles, responsibility or authority) and are directed towards a single goal or endpoint.

During the period of the G8 Summit, gastrointestinal disorders among members of the Integrated Security Unit resulted in an enteric cluster investigation at the Temporary Accommodation Facility (TAF) in Huntsville. The health unit responded according to normal protocol with appropriate leadership, coordination and communication internally through the IMS and externally with other agencies, health units and community partners. Simcoe Muskoka District Health Unit investigated nine cases meeting case definition that were reported between June 23 and June 25, 2010. In the end, no epidemiological link was established between the cases.

On June 23, 2010 at approximately 18:20, an F2 tornado touched down in Midland causing extensive property damage, minor injuries and a widespread power outage. The SMDHU responded in accordance with established protocols as an external partner to the County of Simcoe Emergency Control Group and a support agency to the Midland Emergency Control Group to assist with issues of public health concern. Health unit engagement and response was directed by the Health Unit Incident Commander (the Medical Officer to Health) and coordinated through the IMS structure. The SMDHU implemented standard protocols and activities in response to an extreme weather event and power outage.

Evaluation Questions

Did the IMS structure facilitate a coordinated, integrated response with external partners and staff?

Data Sources

1. Process maps were created for the enteric cluster and the Midland tornado using action logs completed by IMS leads between June 21 and 28, 2010 and minutes of IMS meetings and external stakeholder meetings held during the same time frame. Text from the logs and minutes was entered into Excel spreadsheets and sorted. The maps were then created in Visio using standard flow chart methodology. The objective of the maps was to describe the response to the enteric cluster and the Midland tornado, including information received and shared, decisions made and action taken and to determine if the response was conducted as planned.

2. Additional process maps were drafted, using the same methodology, focusing on teleconferences, meetings and other communications in order to describe the communication process and to determine if it followed the planned integrated clock

   The draft process maps were presented to IMS on July 28, 2010 for a focused discussion. Gaps and inaccuracies were identified and corrected and verified through a variety of sources including personal notes, cross checking with data collected for other evaluation questions, and further review of logs and minutes.

3. Surveys were conducted of key external partners and staff related to the two significant events (enteric cluster and Midland tornado/power outage). Four separate online surveys were created and distributed: an enteric cluster survey for staff, an enteric cluster survey for external partners, a Midland tornado survey for staff, and a Midland tornado survey to external partners.

   a) The Enteric Cluster Investigation - Staff Survey was design to assess staff's perception of the effectiveness of the communication with staff regarding the situation and actions that must be taken (accurate, clear, timely, relevant); availability and accessibility of supports (resources, supplies, systems) required by staff in their response; and SMDHU's response as supporting an integrated and coordinated response.

      A strategic sample of 22 SMDHU staff directly involved in the response to the enteric cluster and IMS members was chosen. A survey was created using Survey Monkey software and the link was sent via internal email. Participants were blind copied to protect anonymity. The survey was available from July 22 to August 4, 2010 (nine business days). A reminder email was sent on July 30, 2010. In two cases, staff were on vacation for the duration of the survey, reducing the total sample size to 20. On August 16, 2010 the survey was closed and the results downloaded and exported to Excel for analysis. A total of 11 people completed the Enteric Cluster Staff Survey for a response rate of 55 per cent.

   b) The Enteric Cluster Investigation – External Partner Survey was designed to assess external partners' perception of the effectiveness of communications with SMDHU (accurate, timely, comprehensive); direction provided by SMDHU via teleconferences (helpful, comprehensive, timely); the value of surveillance data received from SMDHU (accurate, timely, comprehensive, useful) and of SMDHU success in supporting an integrated and coordinated response.

      Twenty-four people from the ISU, TPH, MOHLTC and other physicians were invited to participate by the Medical Officer of Health. Participants were blind copied to protect anonymity. The survey went out July 14, 2010 and closed on July 26, 2010. Four surveys were undeliverable, reducing the total sample size to 20. A reminder email was sent on July 22, 2010. There were 11 completed surveys for a response rate of 55 per cent.

   c) Midland Tornado Response – Staff Survey was designed to assess whether staff perceived that SMDHU supported a coordinated and integrated response to the Midland tornado. The survey was added to the evaluation plan after staff in the Midland office conducted an ad hoc debriefing session and sent their notes to the Medical Officer of Health. The survey questions were informed by the notes from that debriefing and specifically addressed:

      Communication with SMDHU (accurate, timely, comprehensive).

Communication with staff regarding the situation and actions that must be taken (accurate, timely, comprehensive).

Availability and accessibility of supports (resources, supplies, systems) required by staff in their response.

Information received by key partners from the SMDHU regarding actions that must be taken (accurate, timely, comprehensive, useful).

Perception of SMDHU's response as supporting an integrated and coordinated response.

The online survey was sent to 42 staff located in Midland or who had responded to the emergency and to members of IMS. Four of the surveys were undeliverable due to staff being on vacation; 25 surveys were completed for a response rate of 66 per cent.

d) Midland Tornado Response – External Partner Survey was designed to assess whether external partners perceived that SMDHU supported a coordinated and integrated response to the Midland tornado. A strategic sample comprised of those key partners in the emergency:

Community Emergency Management Coordinators from Simcoe County, the towns of Midland and Penetanguishene and the townships of Tiny, Tay and Severn.

Midland physicians contacted by SMDHU about the management of vaccines.

Other Simcoe County staff involved in the emergency response.

A survey was created using Survey Monkey software and was sent via email to key community partners and by fax to the physicians. The physicians were given the option of completing the survey online or by completing a paper version and faxing it back to the health unit. The survey was available from July 16 to 26, 2010 (11 days). A reminder email was sent on July 22, 2010.

The survey was sent to 25 people, and one was returned undeliverable. Only two surveys were started and one completed. Therefore, no analysis was possible.

Findings – Enteric Cluster Investigation

The Enteric Cluster process map (see Appendix C) outlines the steps taken in response to the enteric cluster. After notification on June 23, 2010 at 10:50 by the physician at the ISU Temporary Accommodations Facility (TAF) that six officers reported gastrointestinal symptoms, the IMS Lead for Disease Investigation and Surveillance notified the Ministry Emergency Operations Centre (MEOC) and the SMDHU Health Protection Services team and Manager of Communicable Disease. Communicable Disease and Health Protection Services staff began investigation and inspections as per existing protocols. Within hours the Incident Commander reported the cluster to the Ministry All Stakeholders Teleconference.

The maps show a coordinated and integrated response. Evidence of unified management include:

- Receipt of initial reports by Disease Investigation and Surveillance Lead with follow up to IMS that day.
- IMS identified the need for and created an additional teleconference group (Enteric Investigation Teleconference), chaired by the SMDHU Lead for Disease Investigation and attended by the SMDHU Incident Commander.
- Direction was given from the SMDHU Medical Officer of Health to external partners to isolate cases, collect stool samples, etc.
- IMS maintained control of the response to the enteric cluster until June 26, 2010 and reported the response during the Hot Wash debriefing meeting on June 28, 2010.
- Decision made by SMDHU MOH as Incident Commander that the normal requirement for isolation of staff would be reduced to 12 hours after symptom resolution. This enabled ISU staff to return to work more quickly and possibly reduced reluctance of staff to report symptoms.
- The decision that the RCMP would be the spokesperson for the media ensured that there would be no conflicting or overlapping in communication roles and messages.
- This integration was appreciated by external partners who were surveyed. One commented:
- “Without a doubt SMDHU's ability to listen and willingness to alter or provide leeway in the plan, resulted in a positive outcome.”

Evidence of a coordinated response internally:

- Immediate notification to Health Protection Service by the Disease Investigation and Surveillance Lead of the report of communicable disease symptoms.
- Engagement of staff in HPS and CD in the follow up to the reports.
- All IMS members were kept informed of the disease investigation, inspection and surveillance activities at each meeting.

Evidence of coordination with external partners included:

- Simcoe Muskoka District Health Unit created an additional teleconference group (Enteric Investigation Teleconference) chaired by the Lead for Disease Investigation and

Surveillance and attended by the SMDHU Incident Commander, Associate MOH, Communicable Disease and Health Protection Service Staff, external physicians, representatives from the OPP, RCMP and City of Toronto.

Coordination was also demonstrated with the sharing of information regarding the enteric clusters in Toronto and in Muskoka, while each health unit conducted its own investigations.

Coordination across the health sector through the MOHLTC all sector stakeholder teleconferences and public health stakeholder teleconferences.

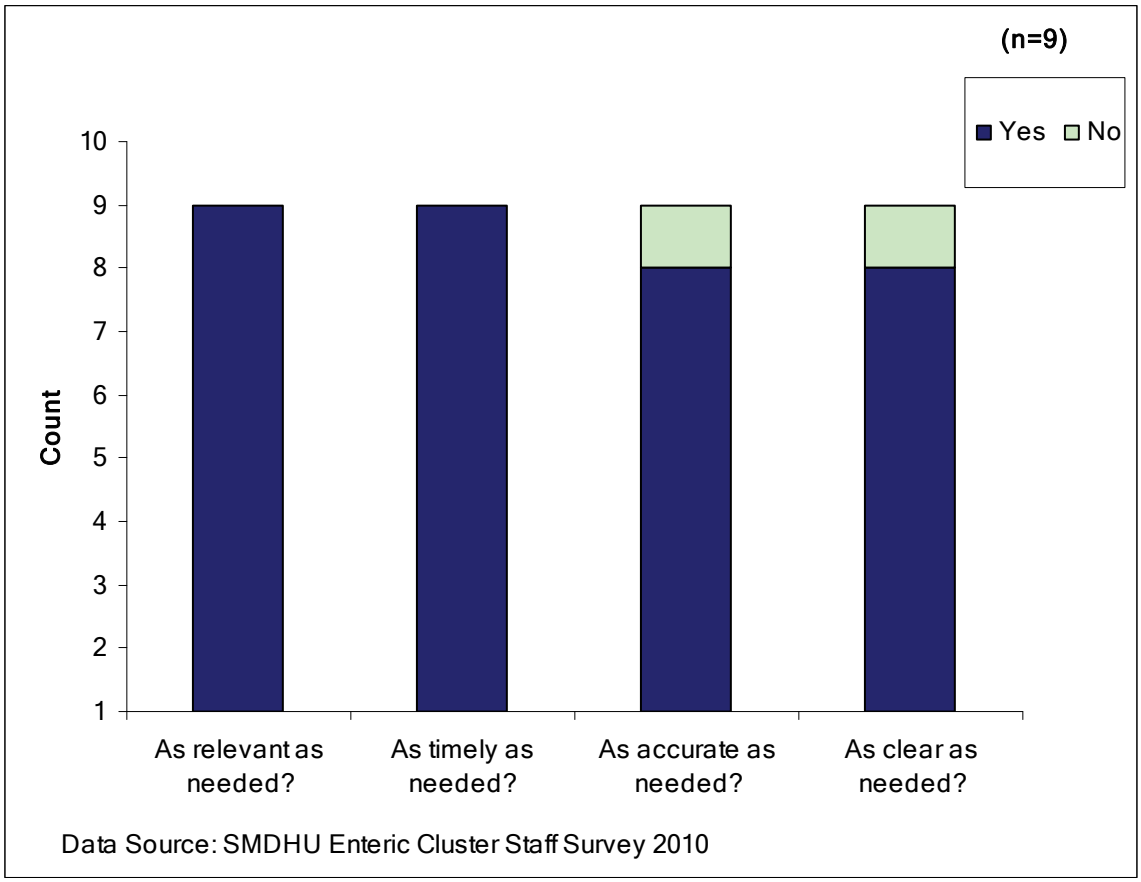
Additional information was also sought and received from other health units regarding the inspections of food services providers. These investigations complemented each other and were focused on a single end point, which was the identification of the source of illness.

There was also coordination among SMDHU CD and HPS staff and ISU TAF in the investigation and surveillance activities.

Staff who responded to the enteric cluster survey were consistent in reporting that they had the resources to work with external partners to assess the situation and to provide leadership and direction. The resources identified as most useful were management supervision and support; relationships and cooperation with external partners and clients; and understanding of the physical layout, process, services, etc.

The majority of staff respondents indicated that the information they received regarding the enteric cluster situation was as relevant and timely as needed (Figure 6). All but one thought the information was as accurate and as clear as needed.

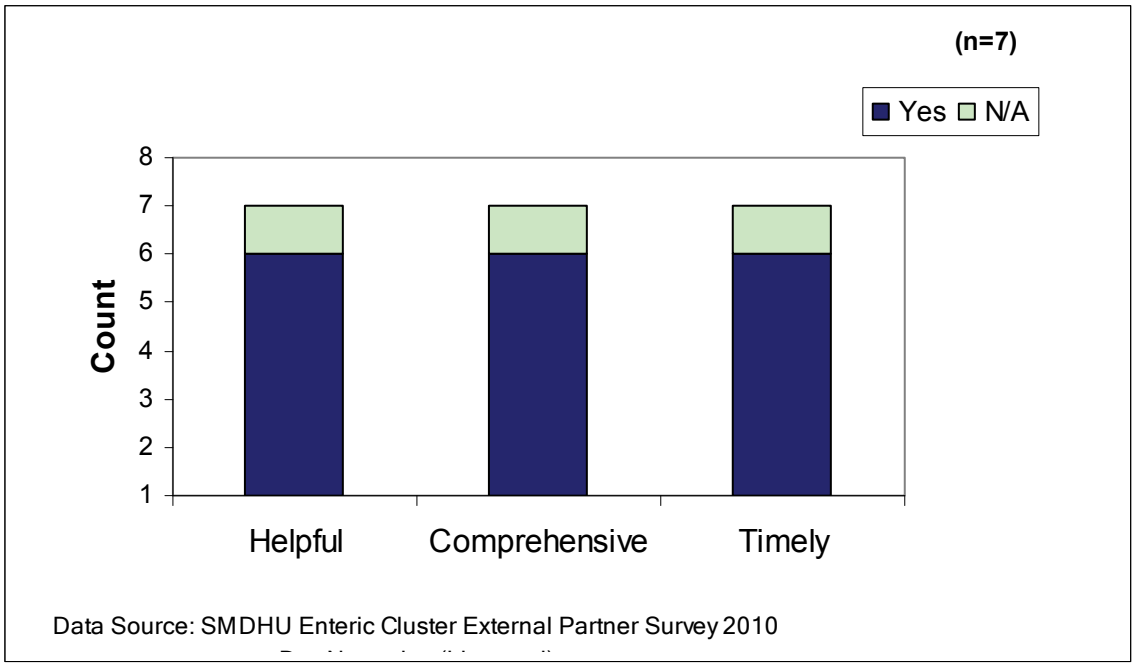
Figure 6: Was information you received regarding the situation (n=9):



Similarly, all 11 of the external partners who responded to the survey indicated that the communication from the SMDHU was timely. Nine respondents reported that SMDHU communicated with them by email and eight by teleconference, three respondents by telephone and three in person.

Of the external partners, seven indicated that they participated in teleconferences with SMDHU specific to the enteric cluster. Of the seven, six found the teleconferences to be helpful, comprehensive and timely (Figure 7).

Figure 7: Direction given by SMDHU to external partners during teleconferences (n=7):



All 11 external respondents indicated that they received surveillance reports and agreed that the reports were accurate, comprehensive and timely. Respondents used the reports to keep informed, react to identified needs or to make decisions (Figures 8a and 8b).

Figure 8a: Surveillance reports received from SMDHU by external partners during G8 (n=11):

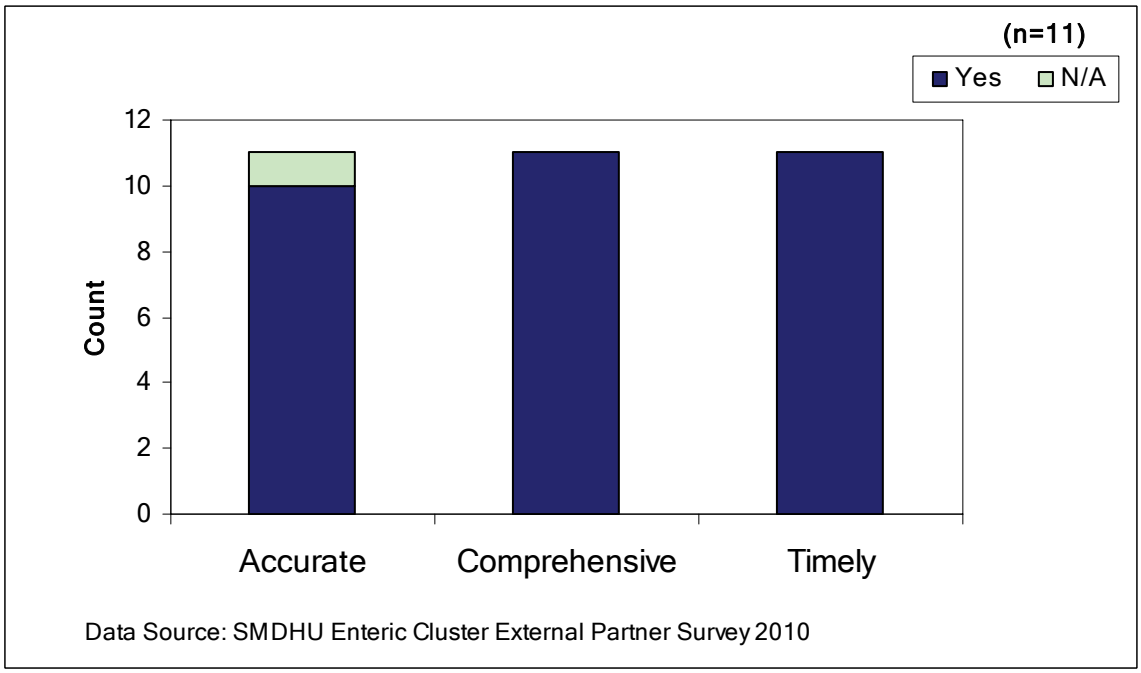
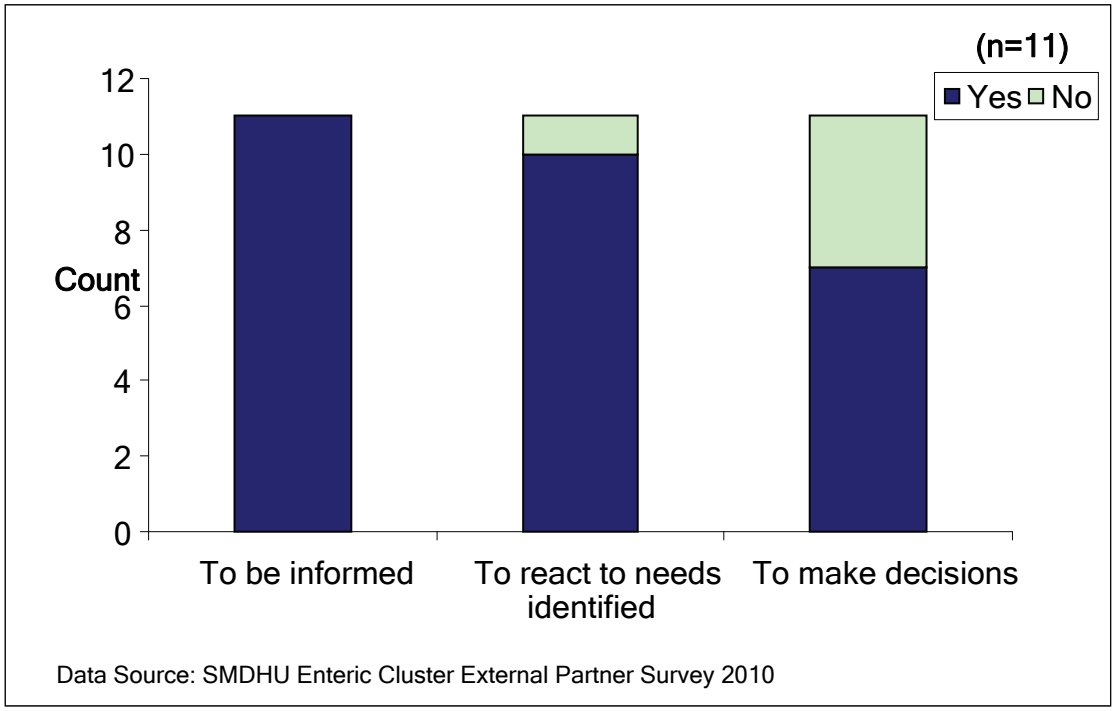
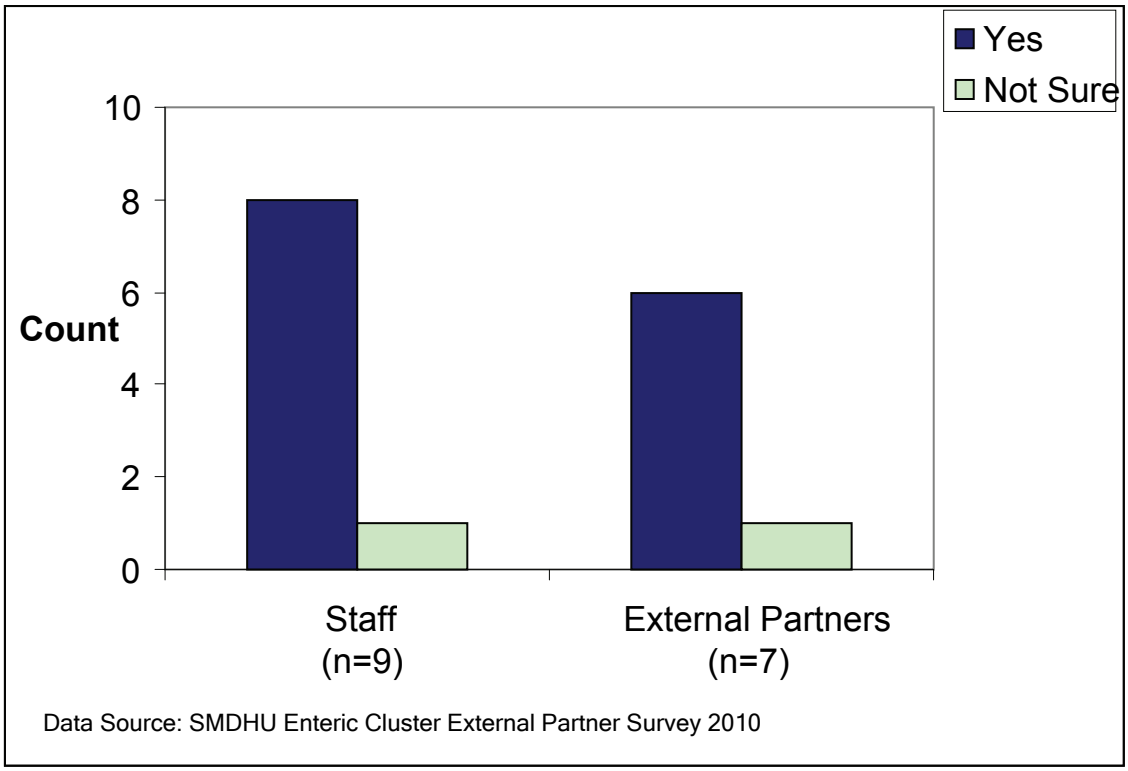


Figure 8b: How surveillance reports were used (n=11):



All but one of each of the staff and external respondents indicated that the health unit provided an integrated and coordinated response (Figure 9).

Figure 9: In your opinion, did SMDHU facilitate an integrated and coordinated response across health unit services to the enteric cluster during G8?



The majority of the external partners who participated in teleconferences specific to the enteric cluster reported that SMDHU supported a coordinated and integrated response. Comments from external partners reinforced this perspective:

> "I was very impressed with the timely and appropriate response from SMDHU. I would like to congratulate the staff on a job well done."
>
> "Well organized, only no connection to the federal group. This was remedied quickly once identified by provincial medical personnel."

Findings – Midland Tornado and Power Outage

The process map of the response to the Midland tornado and power outage outlines the details of the response and indicates the extent to which it met the IMS goal of an integrated and coordinated response. It also highlights the timeline of communications, activities and decisions made.

An indication of the integration of the response was the notification of all IMS members by about 22:00 the evening of the tornado who began taking action according to their area of control. They remained involved in the response until services had been restored and all food and water premises had been contacted and for provincial and local debriefs. Simcoe Muskoka District Health Unit IMS updated G8 stakeholders about the Midland tornado response at each teleconference.

The process map indicates that SMDHU was involved with the County of Simcoe EOC from the beginning, including attendance by the MOH and Emergency Management Supervisor at the County's EOC the night of the tornado. In this incident, the County was the lead for emergency management, with SMDHU a partner. However, coordination of the response was demonstrated by the assignment of PHI and PHN staff to the evacuation centre at the request of the County.

From a public health perspective SMDHU was also required to provide essential services including:

- Securing and managing publically-funded vaccines.
- Contact and assessments of food premises and water systems.
- Providing public service announcements related to food safety.
- Disease and injury surveillance.
- Maintaining after hours support as needed.

The process maps provide a number of examples of coordination with external partners. Shortly after the loss of electrical power after the tornado the staff implemented procedures to secure vaccines and the Lead Disease Investigation and Surveillance approved steps taken to secure vaccines at the health unit office as well as vaccines that were stored at area physician offices. The SMDHU Manager of Safe Water connected with the municipality regarding availability of safe water and provision of bottled water to residents. This is another example of coordination with external partners to ensure that actions complemented each other.

Additional evidence of coordination with external partners was coordination of communications with Midland and the County, including the producing and posting of information sheets for the community and staff. As already outlined in the Communications section of this report, linkages

were provided from the health unit website to the County of Simcoe and Town of Midland and from their sites to SMDHU. While there may have been some overlapping messages if people chose to visit all three websites, only SMDHU developed public health messaging.

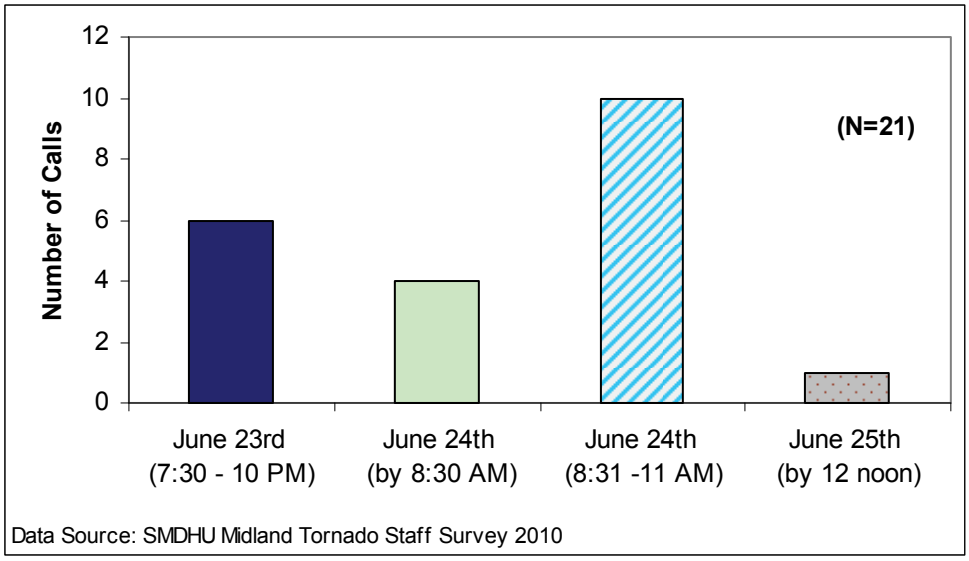
Internal coordination was demonstrated by the assignment of the Health Hazard Manager to lead and coordinate response for the Midland tornado because the Health Protection Service Director was already assigned as the IMS Health Protection Operations Section Chief and the Manager for Emergency Management program was redeployed as the IMS Liaison Officer. The Health Hazard Supervisor was redeployed to the Midland office to coordinate field response as the Food Safety Manager was redeployed as alternate Operation Section Chief–IMS. The response was initially coordinated from the Barrie office due to the power outage in Midland. The supervisor attended the Midland site the afternoon of June 24, 2010 to coordinate the field response. Public Health Inspector staff from Midland as well as PHI staff from other offices that were not already redeployed to G8 activities were assigned to contact food premises to assess and inform prior to the end of the day on June 24, 2010.

One problem with internal coordination was the delay in communication with staff. The process map shows that some of the communication with staff had been delayed. The night of the tornado, the answering service was not called and no information about office closure was provided to local media. Due to the power outage, a decision was made at 9:00 on June 24, 2010 that staff should not remain at the Midland office unless there was a program requirement and managers were advised to contact staff which was attempted between 9:00 and 9:30. Meanwhile some staff had already attempted to go to work and/or to contact their managers or supervisors.

Feedback from IMS based on the draft process map indicated that had an IMS meeting for G8 not been already scheduled for 9:30 on June 24, 2010 that quite possibly IMS might have met earlier that day. The delay until 9:30 subsequently delayed some of the internal communications.

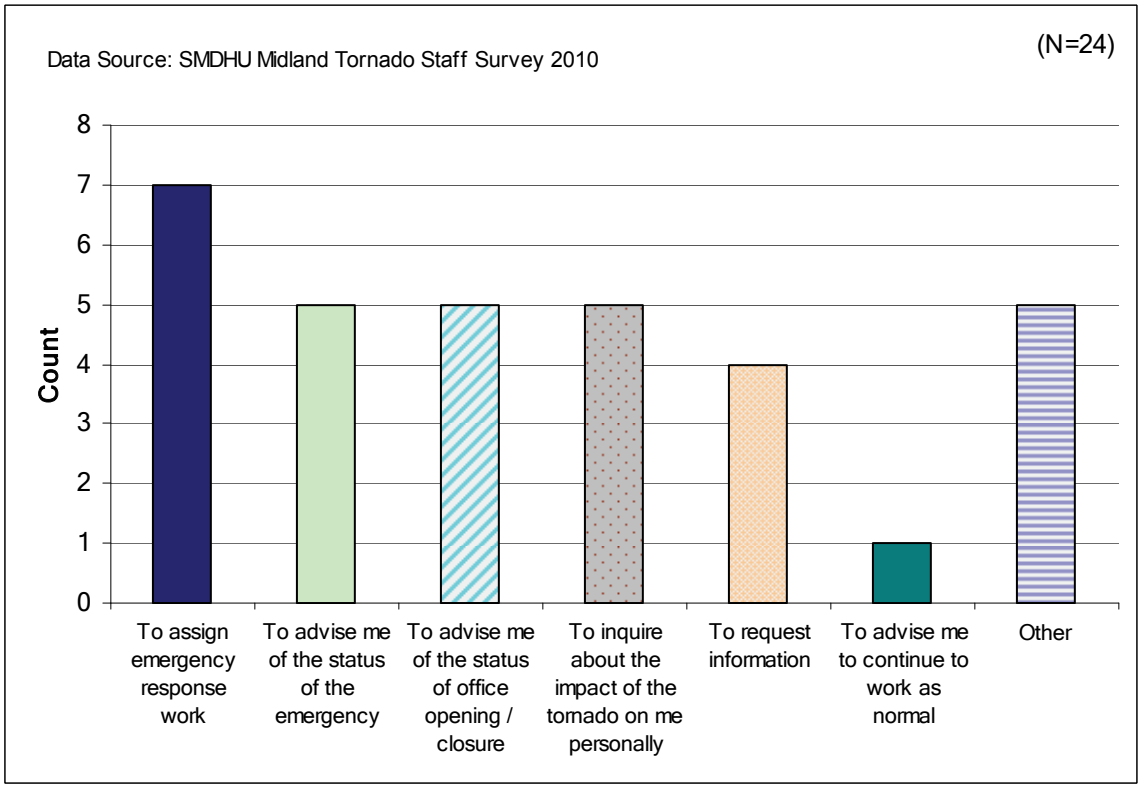
According to staff survey respondents, contact between almost all staff and their direct supervisor (or designate) following the Midland tornado occurred by 11:00 June 24, 2010 the morning after the tornado hit (Figure 10). Contact was initiated almost evenly between staff and their direct supervisor. Seventy-six per cent reported contact by phone followed by 24 per cent contacted in person.

Figure 10: First call received following Midland tornado (n=21)



When asked the question, *"What was the primary purpose of that first contact between you and your direct supervisor or supervisor's designate?"* the most commonly chosen response was 'to assign emergency response work' (Figure 11).

Figure 11: Primary purpose of first contact between staff and their direct supervisor/supervisor's designate (n=24*)

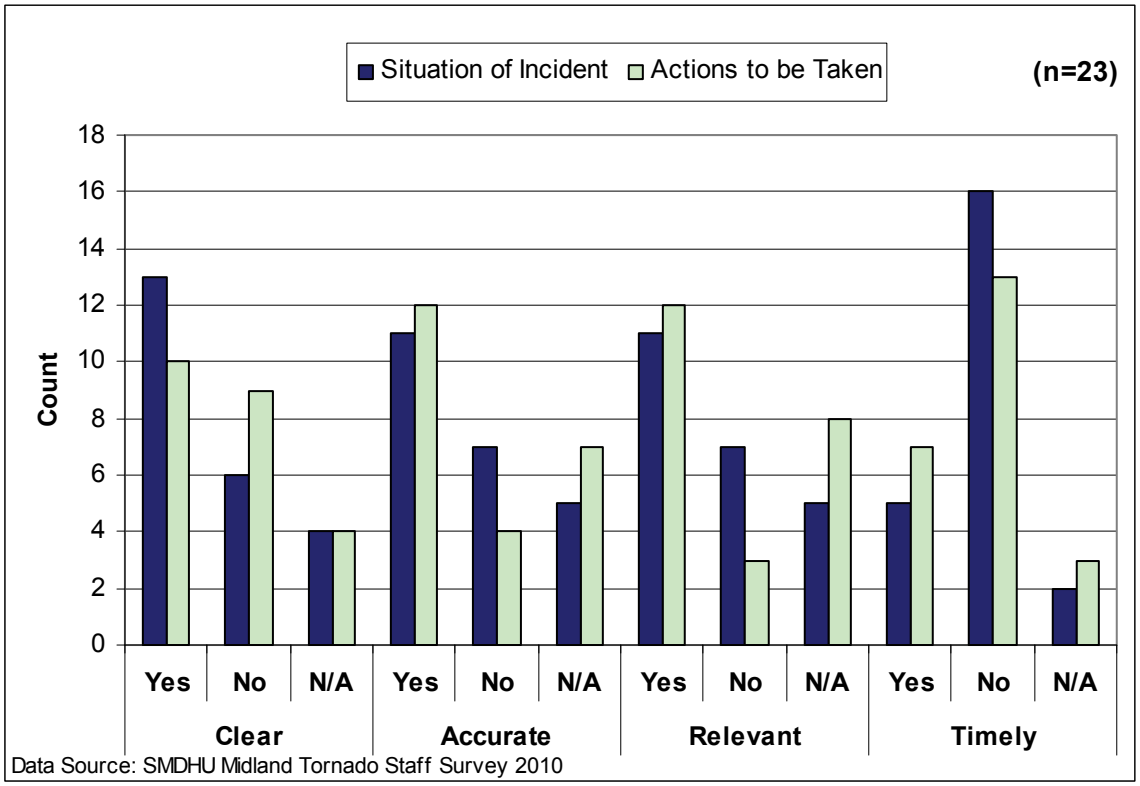


* Respondents were able to select more than one answer to this question, which explains why the total count is greater than 24.

The majority of staff respondents thought the information provided by SMDHU management regarding the situation of the incident and emergency status was clear; and many found the information accurate and relevant. However, a majority did not find the information timely.

Similarly, the majority of staff respondents identified that the information provided by SMDHU management regarding actions to be taken by health unit staff was accurate and relevant. However, the opinion of the respondents was divided on whether the information received regarding actions to be taken was clear. In addition, the majority of respondents did not find the information regarding actions to be taken by health unit staff timely (Figure 12).

Figure 12: In the hours and days following the Midland Tornado, was information provided by SMDHU management regarding the situation of the actual incident/emergency status and actions to be taken by health unit staff clear, accurate, relevant and timely? (n=23):



To back up their opinions about information not being timely, several staff provided specific suggestions for improvement of emergency communications in the future.

Of those who attended the Emergency Management and Response orientation session offered by SMDHU in 2010 (14 or 61 per cent of respondents), the majority of these said the orientation provided enough information to enable them to respond to the tornado and power outage incident. Of those who felt they did not receive enough information, the main comment was that more specifics were needed, especially concerning response from the outer offices if an emergency occurs in their area.

When asked the open-ended question, *"What was the one thing that you considered most helpful or supportive to you in responding to the tornado?"* the main themes coded from the

responses were staff (including both direct supervisors and co-workers) followed by communications.

Many survey respondents (10 or 43 per cent) thought that SMDHU worked effectively with community partners to support an integrated and coordinated response to the Midland tornado. However, four (17 per cent) thought that the health unit did not and nine (39 per cent) were not sure. Four commented that they were not sure about the effectiveness of SMDHU's response because this information was not communicated to them. However, the process maps indicate that, except for communication with staff, IMS provided an integrated and coordinated response externally with the County of Simcoe and internally. Perhaps the lack of communication explains the responses of staff who thought the health unit did not support an integrated and coordinated response, as well as for staff who were unsure.

Summary of Findings

Incident Management System (IMS) response to two incidents during G8, a cluster of enteric disease and a tornado and ensuing power outage, was for the most part both integrated and coordinated.

For both incidents, IMS was involved from the moment the illness or problem was identified until there was a resolution. This included participating in debriefing sessions following the incidents.

The enteric cluster was appropriately coordinated as evidenced by the process map and supported by the survey responses of staff and external partners. There was significant information sharing and consultation with stakeholders and no documented overlap or conflict in participants' roles.

The process maps for the Midland tornado and power outage demonstrated coordination between SMDHU and external partners, including the County, the Town of Midland, area physicians and others. Internal coordination was demonstrated in the assignment of managers and staff outside of the Food Safety program to respond to food and water concerns.

However, delays in internal communication may have contributed to staff feeling that the response was not integrated and coordinated. Staff felt that the information they received while clear and relevant, was not timely.

4.9 RESOURCES

Background

The health unit approached planning for the G8 Summit as it would any major event. All possible measures to protect and promote health and prevent disease and injury were considered for action. A detailed concept of operations was developed with comprehensive plans to address possible risks to health. In February 2010, the MOHLTC announced that there would be no additional funding to support G8 consequence management activities. Simcoe Muskoka District Health Unit Executive made the decision to proceed with the implementation of activities identified within our concept of operations:

As required to ensure preparedness but constrained to those actions that are required;

Using redeployment of current resources where possible to ensure preparedness with the recognition that this would impact other programming but with the understanding that essential service must be maintained;

Identifying additional resources required in relation to preparedness and response–the costs of which will be shared across all services.

Evaluation Questions

Were SMDHU human resources sufficient to meet anticipated and unanticipated demands?

Data Sources

Documentation of essential services provided to the entire County of Simcoe and District of Muskoka for June 21 to 28, 2010 as compared to the Essential Services listing confirmed by executive October 2009.

Calculation of extra-ordinary payroll costs incurred in preparedness and response to G8 over and above the routine costs of providing public health service.

Findings

Most services identified October 26, 2009 as essential were both required and provided during G8 with few challenges. The services not required included Smoke-Free Ontario complaint enforcement and statutory duties in the Chronic Disease Prevention—Tobacco program. No complaints or court cases occurred during this time period. There were no food recall notices and requests for assistance. There were no outbreaks in acute or long-term care hospitals. There was, however, an outbreak in a childcare facility, but outbreak management in child care facilities is not on the list of essential services.

There were a few challenges and potential challenges to responding to the need for essential services.

There were 76 rabies incidents requiring assessment and confinement or onsite inspection of the annual prior to being released between June 21 and 28, 2010. Provision of this essential service was challenged by the redeployment of staff to G8 and to the response to the tornado and resulting power outage.

Road closures in Huntsville area created challenges or delays to vaccine delivery. This is an essential service requiring timely and immediate response.

The tornado and resulting power outage posed challenges to the delivery of essential services to Midland and area:

- Despite road closures that challenged access to the Midland office, the Cold Chain response to the power outage was timely, appropriate and successful.
- Information resources had to be coordinated and delivered from the Barrie Office.
- Both Food Safety leads were redeployed to alternate roles for G8. The Health Hazard manager and the West Nile virus supervisor were deployed to the tornado response.

Despite the challenges, the essential service requirements were met.

Human Resources and Payroll

The G8 response and other essential services were delivered without additional external human resource funding. For the enteric cluster, medical staff at TAF assisted with surveillance and investigation. Toronto Public Health assisted with providing information about their enteric outbreak. A public health physician who had been instrumental in the planning stages as a Community Health Resident during the summer and fall of 2009 returned to SMDHU to provide support during the G8 week. No other external resources were required to conduct public health activities in response to G8.

Staff hours of work were shifted in order to provide breadth of coverage within existing human resource capacities. Overtime and on-call costs for SMDHU staff were 21.75 hours overtime, at a cost of $1,229.22 and 712 hours on call at a cost of $3,269.92. The total additional payroll for the G8 response was $4,499.14.

Summary of Findings

Despite a few challenges, the essential service requirements were met.

The G8 response and other essential services were delivered with minimal external human resources. Limited overtime and on-call costs were accrued due to existing staff shifting their hours of work to implement activities identified within our concept of operations.

5. DISCUSSION AND RECOMMENDATIONS

Planning is key to effective emergency preparedness and response. Regardless of whether the incident is man-made, health-related or environmental in nature, good planning is what separates a successful response from an unsuccessful one. The hosting of the G8 Summit within the area served by the health unit posed potential threats to the health and well-being of residents and visitors to the region. The results of this evaluation suggest that the SMDHU's G8 planning, preparedness and response efforts to prevent or mitigate the potential public health risks were successful.

Roles, Responsibilities and Authority

The response required the cooperation and coordinated actions of multiple levels of government, and a multitude of non-government organizations and agencies. Clearly defining roles and accountabilities at the outset of the exercise was critical to the health unit's success.

Recommendations for future hosts to G8 and G20 event

1. Establish a clear understanding of your role, mandate, authority and accountability in relation to the other parties participating in the planning and response.
    a. Get a legal opinion.
    b. Put it in writing–share your understanding of your role, mandate, authority and accountability with partners.
    c. Develop mutual aid agreements to ensure you have a safety net in case the worst happens.
    d. Document expenses, but keep within your organization's budget constraints until you are assured of funding and have it in writing.
    e. Be prepared for unexpected changes to the landscape.

Recommendations for future mass gatherings in Simcoe Muskoka

1. Foster working relationships strengthened by G8 preparedness and response.
    a. Apply the lessons learned through G8 to strengthen local emergency plans.
    b. Annually review mutual aid agreements and refresh as needed with public health partners.

Hazard Identification and Risk Assessment (HIRA)

Hazard Identification and Risk Assessment was a key component to the successful planning. It accurately identified infectious diseases and food and/or water related disease, extreme weather and loss of critical infrastructure as hazards for which mitigation and response strategies were required.

The assessment helped to focus preparedness and response efforts. Among the mitigation strategies identified in the concept of operations plan were activities related to the prevention of food and waterborne diseases. Inspections of food premises and suppliers, training of food handlers and compliance of safe water legislation activities focusing on high and medium risks in the Huntsville area starting some four months prior to G8. Additional inspections and re-inspections were conducted for high and medium priority food services operations as required.

Although it is not possible to establish cause and effect, the evaluation findings confirm that there was no increase in food and waterborne diseases from 2009 to 2010 for the period of May 1 to July 31.

Recommendations for future hosts to G8 and G20 event

1. Use a systematic approach such as the HIRA to assessing and categorizing public health risk in order to guide planning activities.

Recommendations for future mass gatherings in Simcoe Muskoka

1. Use the HIRA to guide planning activities and prioritize allocation of resources.

Food and Waterborne Hazard Prevention

Food and waterborne illness were considered to be among the highest public health concerns with the G8. In an effort to reduce the risk, inspections of the facilities were conducted in advance of the G8 to ensure compliance with regulations. There was no increase in foodborne and waterborne disease among Muskoka District residents or among Simcoe Muskoka District residents during the response period (May to June, 2010) compared with the same period for the previous year.

Recommendations for future hosts to G8 and G20 event

1. Investment in strategic and focused prevention strategies may be effective in reducing the public health risks associated with mass gatherings. Be prepared to conduct additional inspections as some existing premises expanded their facilities well beyond typical operation, or created additional outdoor temporary food service areas.
2. Large volumes of food may originate from plants under the jurisdiction of other bodies (CFIA) or health units. Distribution and transport are critical control points to assess as well as compliance history.
3. Advance liaison with security forces is critical to accessing sites requiring inspection.

Recommendations for future mass gatherings in Simcoe Muskoka

1. Facilitate regular meetings of Emergency Management, Food Safety, and Safe Water program field staff during the preparation and response stages as circumstances dictate in order to support a comprehensive and coordinated inspection and field response.

Surveillance

Three types of surveillance were used: active, passive and syndromic surveillance. This was the first time the syndromic surveillance system (QUESST) was used by SMDHU for this type of event. The health unit now has a better understanding of the system's applications and limitations. Surveillance reporting was shown to be timely and accurate. Surveillance monitoring picked up four incidents and triggered action: two routine illness investigations were completed.

Recommendations for future hosts to G8 and G20 event

1. Pinpoint indicators specific to the priority risks identified through the Hazard Identification Risk Assessment.

2. Use the indicators as a basis of a surveillance and monitoring system and allocate appropriate resources to data collection, analysis and reporting in order to ensure early warning of potential risks (e.g. syndromic surveillance system).
3. Allow time and resources to negotiate and obtain agreements to participate in the syndromic surveillance system from all relevant emergency departments.

Recommendations for future mass gatherings in Simcoe Muskoka

1. Confirm the scope of surveillance and monitoring activities in advance of an event in order to ensure relevant and accurate indicators of risk.
2. Ensure sufficient allocation of resources to data collection analysis and reporting in order to ensure timely reporting that will support response (e.g. a syndromic surveillance system).

GIS Mapping

Significant resources were dedicated to building the framework for a Geographic Information System (GIS) that could be used to support incident response in relation to G8. During G8, GIS was applied primarily to access simple geographic information and to identify areas of interest or facilities, premises or locations that required public health intervention or response. The use of GIS mapping for G8 response was limited by access to the technology, the speed of the technology, the accuracy of data within the application and the small number of incidents requiring response during this period.

Recommendations for future hosts to G8 and G20 event

1. Consider incorporating the use of a Geographic Information System to support planning and response.
2. Take time to build the system and the skills in advance of the event in order to ensure timely access to accurate information.

Recommendations for future mass gatherings in Simcoe Muskoka

1. Building the use of GIS mapping tools (ArcGIS Explorer, GPS units) into program planning and delivery. Provide the necessary training and technical support to use the tools and functions effectively.
2. Create more ready-made maps for the entire County and District so staff will become familiar with them and get used to using them.
3. Continuing with the development of the GIS foundation that was laid in the months leading up to G8 and collaborate with other agencies who have data and maps already in place (e.g. County of Simcoe).
4. Adopt agency standards for the accurate collection of geographic based information.

Communications

Simcoe Muskoka District Health Unit was a leader in communications planning for this event at the local and provincial levels. Communications staff worked closely with partners to determine roles, processes and responsibilities. This helped SMDHU to implement a coordinated and consistent approach to internal and external communications. The integrated clock process map demonstrated that regular, timely communication occurred at and between the provincial and local levels during G8.

Recommendations for future hosts to G8 and G20 event

3. Establish linkages that will enable the coordination of communications across sectors.
4. Establish a communication cycle to support and coordinate internal and external communications.
5. Be prepared to pro-actively communicate with media regarding preparedness well in advance of the event. Limit media relations during the event to messaging in response to incidents.
6. Build and test communications systems and processes in advance.

Recommendations for future mass gatherings in Simcoe Muskoka

1. Build on communication tools and processes that are already in place. This is not the time to try new strategies.
2. Clarify review and approval processes for communications internally and externally to ensure timely response in light of rapidly changing events.

Community Preparedness, Education and Awareness

The Community Health subcommittee of the SMDHU G8 Planning committee identified the importance of identifying potential community health issues and public health impacts associated with G8 and then to develop and disseminate key messages to vulnerable populations during the G8 event, as well as to provide information to community partners and the affected population to assist them to be prepared for public health emergencies that might arise. The HIRA is critical to identifying key issues and focusing key messaging regarding preparedness and response for partners and the public. This focus enables and facilitates action to protect health and prevent illness and injury. Based on the response from partners, the tools created by the health unit to facilitate preparedness were valued.

The health unit is recognized as a source of information. Health Connection was well prepared, but received few calls. This may be the result of the right amount of information being proactively provided to the public through various and easy to reach channels.

Recommendations for future hosts to G8 and G20 event

1. Focus information regarding preparedness to address priority areas and provide tools that will facilitate action on the part of partners and the public to promote and protect health.

Recommendations for future mass gatherings in Simcoe Muskoka

1. Use the preparedness checklists as a template for tools to facilitate preparedness and response to future mass gatherings.

Incident Management System

The role of the IMS in facilitating and supporting an integrated and coordinated response was assessed using two incidents—report of an enteric disease cluster and the Midland tornado with associated infrastructure failure. Response to the enteric cluster was clearly directed by the SMDHU Incident Commander through to Lead Disease Investigation and Surveillance. Both internal and external participants in the response acknowledged and respected this authority and direction.

The IMS supported a coordinated response internally including the identification of key issues at the IMS table, engagement of the appropriate staff in response as needed and the provision of regular updates to the IMS.

The outbreak investigation and communications went according to plan. Staff had the resources and supports they needed to respond. Communication received was generally considered to be accurate, clear, timely and relevant.

Those involved in the response pointed to the relationships established during planning and preparation between SMDHU and external partners including MOHLTC, ISU medical staff, other medical experts and TPH as key to the successful response to the cluster. This enabled SMDHU to effectively follow-up on rumours of an outbreak, to receive timely notification of cases and to effectively direct medical staff how to proceed. Allowing ISU staff to return to work more quickly after the absence of symptoms than is normally recommended was deemed to be appropriate in the circumstances and responsive to the needs of the partners.

The tornado had greater consequences to more people, structures and systems than did the enteric cluster. It affected not only the public, but our own staff, office and programs. It was a more sudden event and a rapidly changing situation. The process map illustrates that the IMS supported an integrated and coordinated response with municipal partners through the incident Commander beginning with his attendance at the County EOC within hours of the event and participation through his designate (the Health Protection Lead) at the municipal EOC. It also illustrates the rapidity with which communications occurred; decisions were made and acted upon.

The IMS structure facilitated early notification of the event to all IMS Leads who took responsibility for communicating and coordinating the response as required within their areas of responsibility. Staff responded in accordance with existing protocols in advance of central direction. For example staff responded as per existing protocols to secure and protect tens of thousands of dollars of publically funded vaccines. Essential services were delivered in a timely manner. No food or water related illness was reported.

Overall, a majority of staff surveyed felt that the information provided by SMDHU management was accurate and relevant but not timely. Many staff felt that the response to the tornado was not entirely coordinated and integrated. Lack of timely communication may have contributed to this perception. Some surveyed staff suggested that they were unsure of their roles and the role of the health unit during the incident.

Recommendations for future hosts to G8 and G20 event

1. Do not underestimate the importance of developing and enhancing relationships with key partners in advance of an event with a view of:

   clarifying roles, responsibilities and mandates

   aligning protocols for response to key issues and

   establishing contacts and communications channels that will facilitate timely, accurate and relevant communication.

Recommendations for future mass gatherings in Simcoe Muskoka

1. Work with SMDHU staff based in local health unit offices to test emergency systems and protocols and to reinforce roles, responsibilities, protocols, health and safety considerations and lines of communication.
2. Consider identifying and deploying a lead manager to the site of an incident in order to to ensure the following:

   accurate and timely assessment of the situation to the Incident Commander

   clear and timely communication to the staff on site regarding agency direction

   monitor health and safety of staff.

Resources

The health unit approached planning for the G8 Summit as it would any major event. All possible measures to protect and promote health and prevent disease and injury were considered for action. Actions were constrained to those actions that are required and where possible achieved through the redeployment of current resources.

The G8 response and other essential services were delivered with minimal additional external human resources. Limited overtime and on-call costs were accrued due to existing staff shifting their hours of work to implement activities identified within our concept of operations. G8 was identified as a pressure in 2009 and 2010 with a significant impact on the ability of agency to move forward the strategic plan.

Recommendations for future hosts to G8 and G20 event.

1. Do not underestimate the cost of planning and preparedness. Recognize the uncertainty regarding funding for planning and response, tailor plans to focus on essential activities and plan to operate within existing resources.

Recommendations for future mass gatherings in Simcoe Muskoka.

1. Share, modify, adapt and re-use tools created in planning and response to G8 to maximize the benefit of resources expended.

Limitations

This evaluation has a number of limitations, some of which may be avoidable in future evaluations of mass gathering events.

The timing of the event made it difficult to obtain data from staff and external partners during the vacation period that followed the G8 Summit. Because the event took place over such a short

period of time and many of the participants moved on quickly, it was not possible to collect data from the population. This was unavoidable but resulted in very small sample sizes.

It was difficult to plan the evaluation in advance due to the indeterminate activities. Hazard Information Risk and Assessment (HIRA) was helpful in identifying the most likely kinds of risks and incidents that would occur. Process maps were very useful in describing what actually happened. As a tool used in conjunction with other methods (survey, focused discussion with IMS) it increased the reliability and validity of results. However no process maps were created based on the plans, so comparisons of planned and actual activities were hindered.

6. CONCLUSION

The results of this evaluation suggest that the planning, preparation and response by SMDHU to the public health consequences of the G8 summit were successful. Lessons learned from this experience should be helpful to those planning for mass gatherings in Simcoe Muskoka and future G8 Summits in other jurisdictions.

The main lesson may be that extensive planning and preparation pays off. Although causal links were not possible to make, few potential incidents actually materialized. The two most significant incidents were, for the most part, handled well. New processes (e.g. syndromic surveillance, GIS mapping) show promise for the future, if lessons learned during this experience are acted upon. Communication was planned across sectors and locally the public health component of G8 had a low profile. However, communication continues to be a challenge, particularly internally, when IMS is dealing with a rapidly changing situation.

The ingredients for success appear to include:

enhanced communication with external partners

conducting public health business as normal during the response

using strategies to mitigate known risks and

following the plan.

This experience provides the building blocks for future mass gathering planning, preparation and response.

References

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APPENDIX A - INDICATORS AND DATA SOURCES

Component	Evaluation Question(s)	Indicators	Source
Roles, responsibilities and authority	What opportunities and challenges were experienced with respect to multi-level jurisdictional planning for G8?	Description of SMDHU role during G8 planning, preparedness and response Description of SMDHU's mandated and statutory responsibilities and accountabilities Description of the negotiations between SMDHU and other partners Outcomes: agreements, understandings, etc.	Documents: Health Sector SubCommittee meeting minutes; SMDHU G8 Planning meeting minutes; email correspondence with the Medical Officer of Health, Associate Medical Officer of Health, and Director, Health Protection Services
HIRA	Were the hazards adequately prioritized and was the health unit's response to the hazards that arose adequate? i) What predicted hazards arose? Was the planned response implemented? Were there changes made to the planned response and why. ii) What hazards arose that were not predicted. What response was implemented?	For each hazard identified by the HIRA process: 1) # and type of incident reported 2) # and type of incident investigated 3) # of confirmed cases 4) planned response 5) actual response/action taken 6) reason for difference from the plan	Tracking sheet - reporting of each indicator - response to each relevant indicator - difference between the response and the plan
Food and water borne hazard prevention	What strategies were implemented to reduce the risk of food and water borne illness? Did prevention activities affect food and water borne incidence in Muskoka (or Huntsville) in June, 2010 compared to June 2009?	Description of prevention activities # and type of food borne incidence reported (probable, confirmed) # and type of water borne incidence reported (probable, confirmed)	Surveillance data from June 2009 and June 2010 - tracking sheet showing planned and actual response

APPENDIX A - INDICATORS AND DATA SOURCES

Component	Evaluation Question(s)	Indicators	Source
Surveillance	For each indicator selected by the G8 Surveillance Sub-committee: 1. Were we able to collect it with the frequency we intended? (ie. Timeliness) 2. Did the data capture everything we intended (e.g. all exposures, cases, warnings)? (ie. Accuracy) 3. What actions were taken (either SMDHU or other agency) based on surveillance of the indicator? (ie. Usefulness)	Intended frequency of data capture / collection / reporting Actual frequency of data capture/ collection / reporting # of known instances in which indicator was inaccurate at the time it was needed. # of days with red code # of days with yellow code Actions taken	Varies: see G8 Monitoring & Surveillance Update, Simcoe Muskoka District Health Unit Tracking sheet – Appendix B
GIS Mapping	What were the potential uses of GIS during G8? How was GIS actually used during G8? If used differently than planned, why? Did the previously prepared maps meet the response needs? Were maps available in time for the response? What improvements, if any, are needed for future mass gathering events? What resources were required to prepare for GIS services during G8?	1) List of potential uses of GIS during G8 2) List of actual uses of GIS during G8 3) Difference between potential and actual uses of GIS during G8 4) # and type of maps requested for G8 between June 17 and June 30 5) # (or %) of requests met by the requested deadline 6) Recommendations by users (epidemiologists, GIS specialist, ArcGIS Explorer users and G8 map users) for improvements for future mass gathering events 7) # FTE to prepare GIS for G8	1,2,3, 4: user survey 4, 5: Tracking tool 6: User interviews
Communications	a) What communications planning - internally and externally - took place? b) Did it contribute to a coordinated and consistent approach to SMDHU communications that was easy to implement? c) Did we provide timely, relevant and accurate information to our various audiences? (public, partners, staff)	a) description b) perceptions of coordination and consistency of communications systems and processes.	a) and b) Communications Team feedback/debrief
	i)What communications did we get out to who, how, when, why? ii) What response did we get back from our	ci) # of press conferences # of press releases/PSA # of updates/contacts with partners # of updates/contacts with staff cii) # interview requests	ci and cii) Communications Team tracking tool cii) CHRIS

APPENDIX A - INDICATORS AND DATA SOURCES

Component	Evaluation Question(s)	Indicators	Source
	communications?	# calls to Health Connection # website hits	
Community Preparedness Education and Awareness preparedness	What Community Education and Awareness preparedness activities were developed and implemented prior to June 1, 2010?	Description of Community Preparedness Education and Awareness: Preparedness checklists	Communications Logs
	Where they effective in reaching the intended audiences? What changes could be made for future mass gathering events?	- % of intended audience received the checklists and used them in their organizations or with clients to be better prepared for G8 potential emergencies - Items identified as missing from the checklist - % of intended audience who will use the checklists in the future	Survey of intended audience (key external partners and HBHC staff)
	Did staff within the Health Connection service (CD, Core, HPS, SH) have the information they needed to respond to public inquiries in a timely manner?	# of web site hits # of Health Connection calls Change in call volume to Health Connection service and switchboard	See Communications component Survey of community partners re use and usefulness of client checklist
	Did we have sufficient staffing to respond to public inquiries?	Redeployment of additional staff to Health Connection function	Staffing schedule
IMS	Did the IMS structure facilitate a coordinated, integrated response with external partners?	Comparison of planned process to actual process of: 1) Enteric cluster incident 2) Midland tornado and power outage 3) Integrated clock use related to the enteric cluster and Midland tornado and power outage External partners' and SMDHU staff's perception of the effectiveness of the coordinated integrated response.	Process maps: plans pre G8; IMS minutes; Response Logs. Focused interview with IMS Surveys of key external partners Surveys of key staff

APPENDIX A - INDICATORS AND DATA SOURCES

Component	Evaluation Question(s)	Indicators	Source
Resources	Were SMDHU human resources sufficient to meet anticipated and unanticipated demands?	Essential services provided across the county and district. # of hours overtime worked for G8 External resources required	Essential services tracking sheet completed by directors before and after G8 Payroll Action logs (external resources required)

APPENDIX B – SURVEILLANCE INDICATORS

Area	Data Source	Indicator (defined in Definition Table below)
Infectious Diseases	QUESST baseline = average from same day of week in three previous weeks from May 30-June 15, 2010. Range = plus and minus 2 standard deviations based on this average.	Total Hospital Admissions[¥]
		Total ER Visits[¥]
		Gastroenteritis ER Visits[¥]
		Respiratory ER Visits[¥]
		Fever/ILI ER Visits[¥]
		Asthma ER Visits[¥]
		Dermatological Infectious ER Visits[¥]
		Neurological Infectious ER Visits[¥]
		Severe Infectious ER Visits[¥]
	CD Outbreak Log baseline=3 year mean for equivalent date	Active respiratory outbreaks[¥]
		Active gastrointestinal outbreaks[¥]
	CD Intake or email (Tb)	Reportable diseases (unusual or cluster)
	MOHLTC (Delayed by one day)	TeleHealth clusters (gastro, resp, fever/ILI, rash, rash/fever, H1N1, neuro/chemical and mumps) for Ontario & Simcoe Muskoka[¥]
	Other	Health care provider phone calls (unusual)
		# diseases reported by EMAT (federal mobile medical unit)
		# diseases reported by TAF (Temporary Accommodation Facility – RCMP/OPP)
		Other unusual activity (e.g. tick submission)
Environmental Health	Hedgehog	Foodborne Illness Complaints[¥]
	Program Files	Active Boil/Drinking Water Advisories[¥]
	Beach DB	Active Bathing Beach Postings[¥]
	Environment Canada	Smog Advisories[¥]

Area	Data Source	Indicator (defined in Definition Table below)
	baseline: daily average between Jun 15-30, 2009; range = min/max	Air Quality Index[¥]
		Heat Alert[¥]
		Extreme Weather Warnings[¥]
	Other	Other unusual activity (e.g. CBRN, critical infrastructure damage)
Community Health	NFocus baseline: daily average between Jun 15-30, 2009; range = min/max	Total Call Volume through Switchboard
		Public Inquires through Health Connection – Core & HPS
		Public Inquires through Health Connection – CD & Sexual Health
	Other	Other unusual activity
Communications	Corp Communications	Number of Media Requests
		Other unusual activity

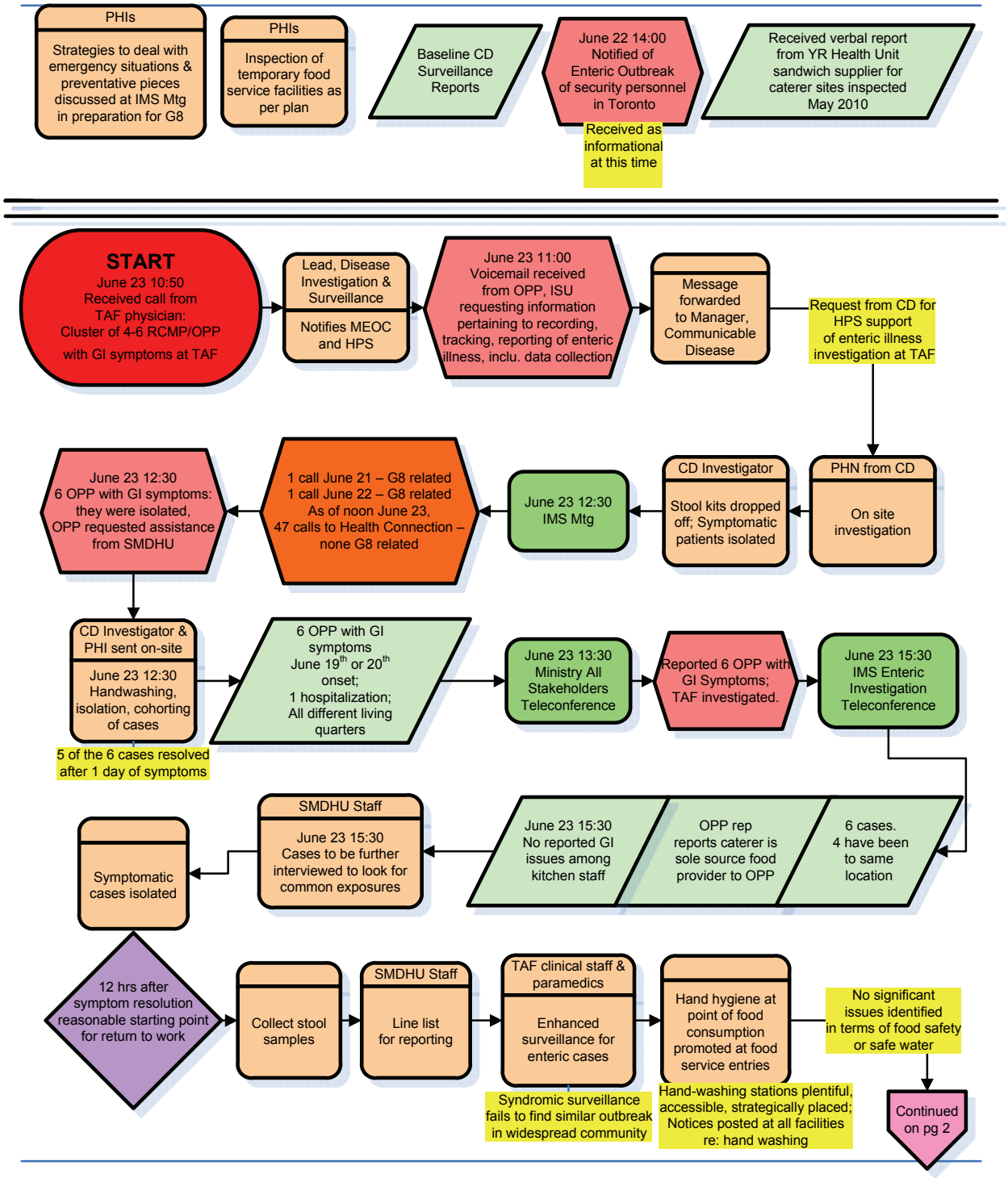
Definitions

Indicator	Definition
Total ER Visits	Daily count of ER visits (all reasons) for Muskoka Algonquin Healthcare (MAH=Huntsville/Bracebridge Hospitals obtained from QUESST as of 12:00am on report date
Total Hospital Admissions	Daily count of hospital admissions (all reasons) for Huntsville / Bracebridge Hospitals obtained from QUESST as of 12:00am on report date
Gastroenteritis ER Visits	Daily count of ER visits for gastroenteritis for Huntsville / Bracebridge Hospitals obtained from QUESST as of 12:00am on report date (definitions at: www.quesst.ca)
Respiratory ER Visits	Daily count of ER visits for respiratory illness for Huntsville / Bracebridge Hospitals obtained from QUESST as of 12:00am on report date defns at: www.quesst.ca)
Fever/ILI ER Visits	Daily count of ER visits for fever/ILI for Huntsville / Bracebridge Hospitals obtained from QUESST as of 12:00am on report date (definitions at: www.quesst.ca)
Asthma ER Visits	Daily count of ER visits for Huntsville / Bracebridge Hospitals obtained from QUESST as of 12:00am on report date (definitions at: www.quesst.ca)
Dermatological Infectious ER Visits	Daily count of ER visits for dermatological illness for Huntsville / Bracebridge Hospitals obtained from QUESST as of 12:00am on report date (defns: www.quesst.ca)
Neurological Infectious ER Visits	Daily count of ER visits for neurological illness for Huntsville / Bracebridge Hospitals obtained from QUESST as of 12:00am on report date (defns at: www.quesst.ca)
Severe Infectious ER Visits	Daily count of ER visits for severe infectious illness for Huntsville / Bracebridge Hospitals obtained from QUESST as of 12:00am on report date (defns: www.quesst.ca)
Active respiratory outbreaks	Daily count of active institutional and community respiratory outbreaks in the Hunstville area as recorded in the CD Outbreak Log
Active gastrointestinal outbreaks	Daily count of active institutional and community gastrointestinal outbreaks in the Hunstville area as recorded in the CD Outbreak Log
Reportable diseases (unusual or cluster)	Description of any rare reportable disease or any unusual cluster of reportable diseases received through usual program channels including CD intake, Tb log, emails
Health care provider phone calls (unusual)	Description of any unusual reports of illness the program receives directly from health care providers that are not covered above
Telehealth syndromic clusters-respiratory/enteric	Clusters of telehealth calls for gastro, resp, fever/ILI, rash, rash/fever, H1N1, neuro/chemical and mumps by Forward Sortation Area in Ontario & Simcoe Muskoka. Syndrome definitions at: S:\Incident & Emergency Response\G8\3b.DiseaseInvestigation\G8 Surveillance Reports\External Data\MOHLTC
Reports from G8 partners	Description of any relevant reports of illness received by external G8 partners (e.g. DND=Dept of National Defense, RCMP, E-MAT=federal mobile medical unit, etc.)
Other unusual activity	Any other unusual activity related to infectious disease not covered by the above indicators (e.g., CBRN disease activity, tick submissions).
Foodborne Illness Complaints	Daily count of foodborne illness complaints from the Huntsville area as recorded in the Hedgehog Inspection Database
Active Boil/Drinking Water Advisories	Daily count of active boil water or drinking water advisories for the Huntsville area as recorded by the Safe Water Program
Active Bathing Beach Postings	Daily count of active bathing beach advisories or closures for the Huntsville area as recorded in the Beach Monitoring Database
Smog Advisories	Yes/no if a Smog Advisory has been issued (active) for Parry Sound-

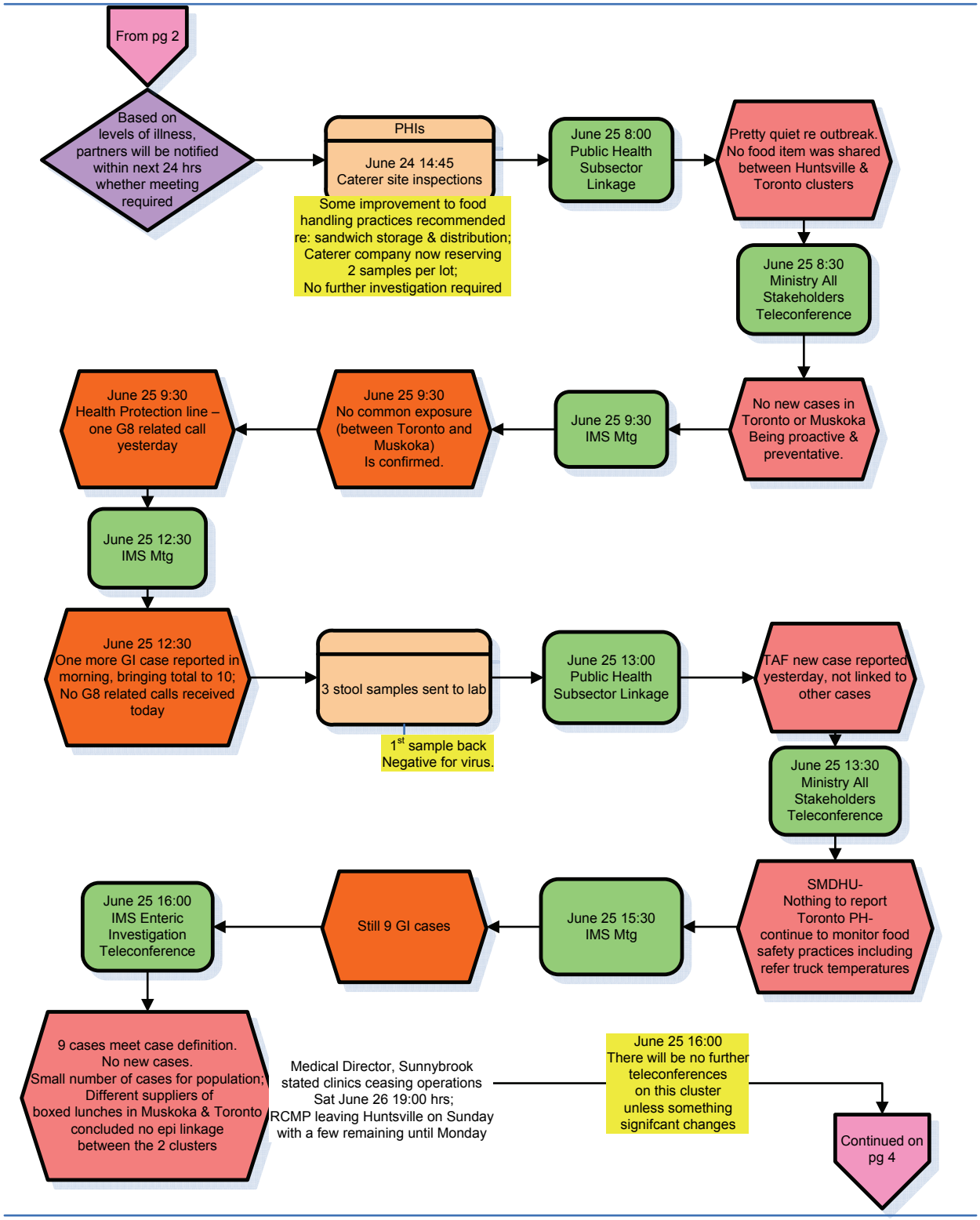
Indicator	Definition
	Muskoka-Huntsville by Env.Can (http://www.airqualityontario.com/press/advisories_2010.cfm)
Air Quality Index	AQI score for Dorset (0-15=very good; 16-31=good; 32-49=moderate; 50-99=poor; 100+=very poor) http://www.airqualityontario.com/reports/today.cfm?sites=49010&submit=Today%27s+Air+Quality+Index
Heat Alert	Yes/no if the forecast for the next 24 for the Muskoka Airport shows one or more of: (1) high temperatures without a humidex reading equal 38 C or above; (2) Forecast showing a humidex advising of 40 C or higher; (3) Humidex is forecast to rise to 36 C or higher, combined with an Environment Canada Smog Alert; (4) Environment Canada issues a humidex warning for outdoor activity for people in the area. http://www.intellicast.com/Local/Weather.aspx?location=CAXX0648
Extreme Weather Warnings	Any official weather warnings for Parry Sound – Muskoka (http://text.weatheroffice.gc.ca/warnings/report_e.html?on15)
Other unusual activity	Any other unusual activity related to environmental health not covered by the above indicators (hazardous material incidents, CBRN, critical technological/infrastructure)
Total Call Volume through Switchboard	Daily count of incoming call volume (ACD+ABAND) at switchboard (skill =9) from NFocus
Public Inquires through HC – Core & HPS	Daily count of incoming call volume at health connection core (VDN =8803,8824,8825,8833,8834, 8892) and HPS (VDN=8811) from NFocus
Public Inquires through HC – CD & Sexual Health	Daily count of incoming call volume at CD (VDN =8809) and Sexual Health (VDN=8831) from NFocus
Other unusual activity	Any other unusual activity related to community health not covered by the above indicators
Number of Media Requests	Daily count of media requests to corporate communications
Other unusual activity	Any other unusual activity related to communications not covered by the above indicators

APPENDIX C – PROCESS MAPS

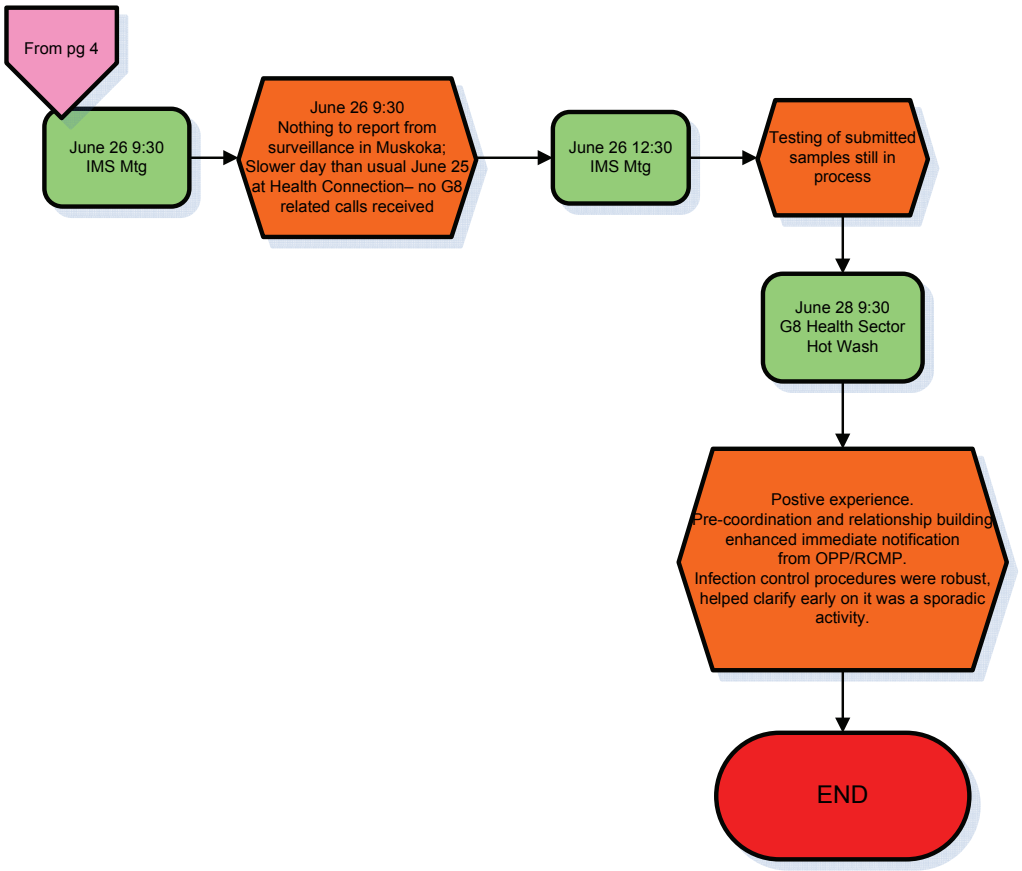
G8 Evaluation
Enteric Cluster Process Map



G8 Evaluation
Enteric Cluster Process Map



G8 Evaluation
Enteric Cluster Process Map



G8 Evaluation
Enteric Cluster Process Map

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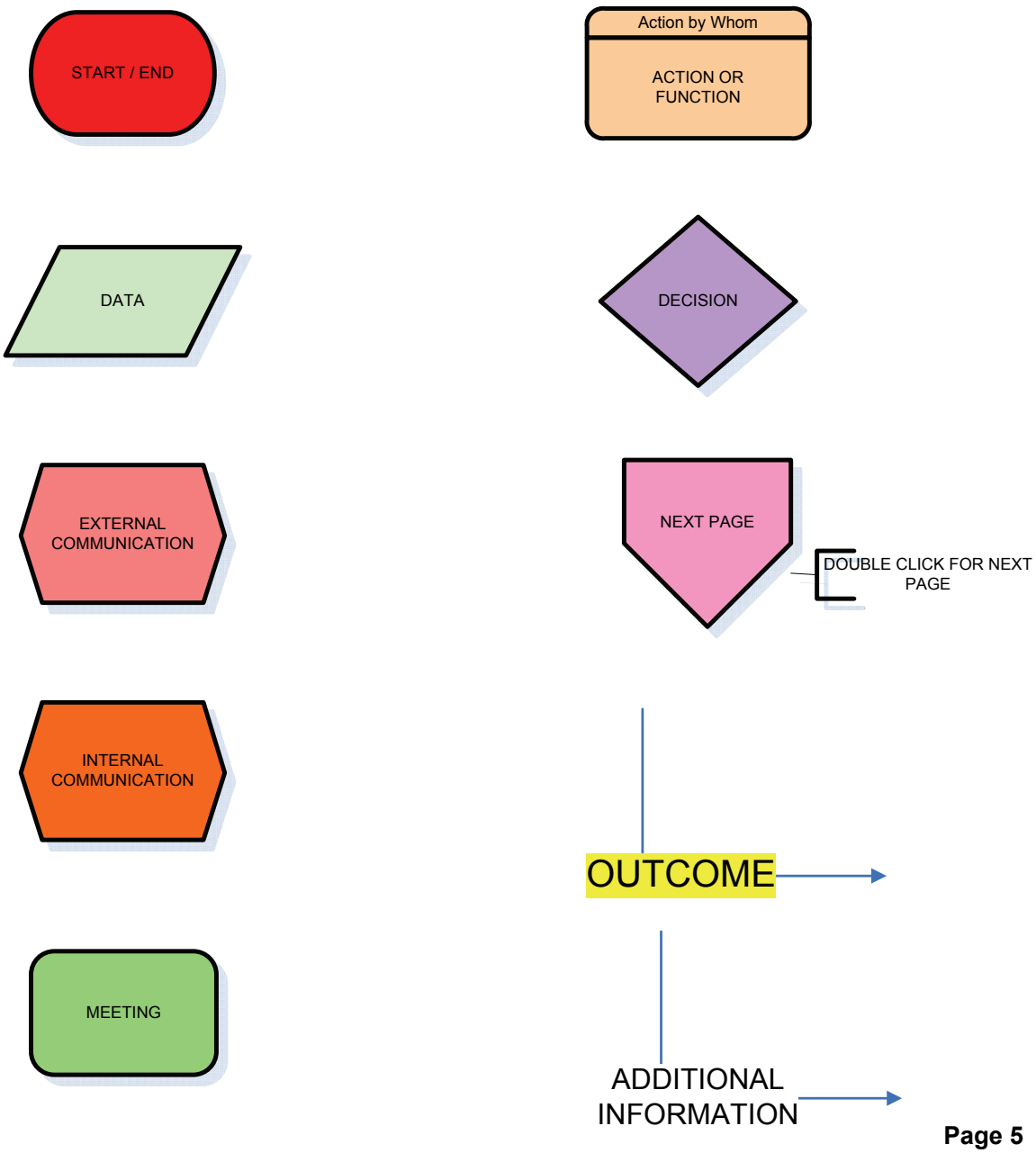

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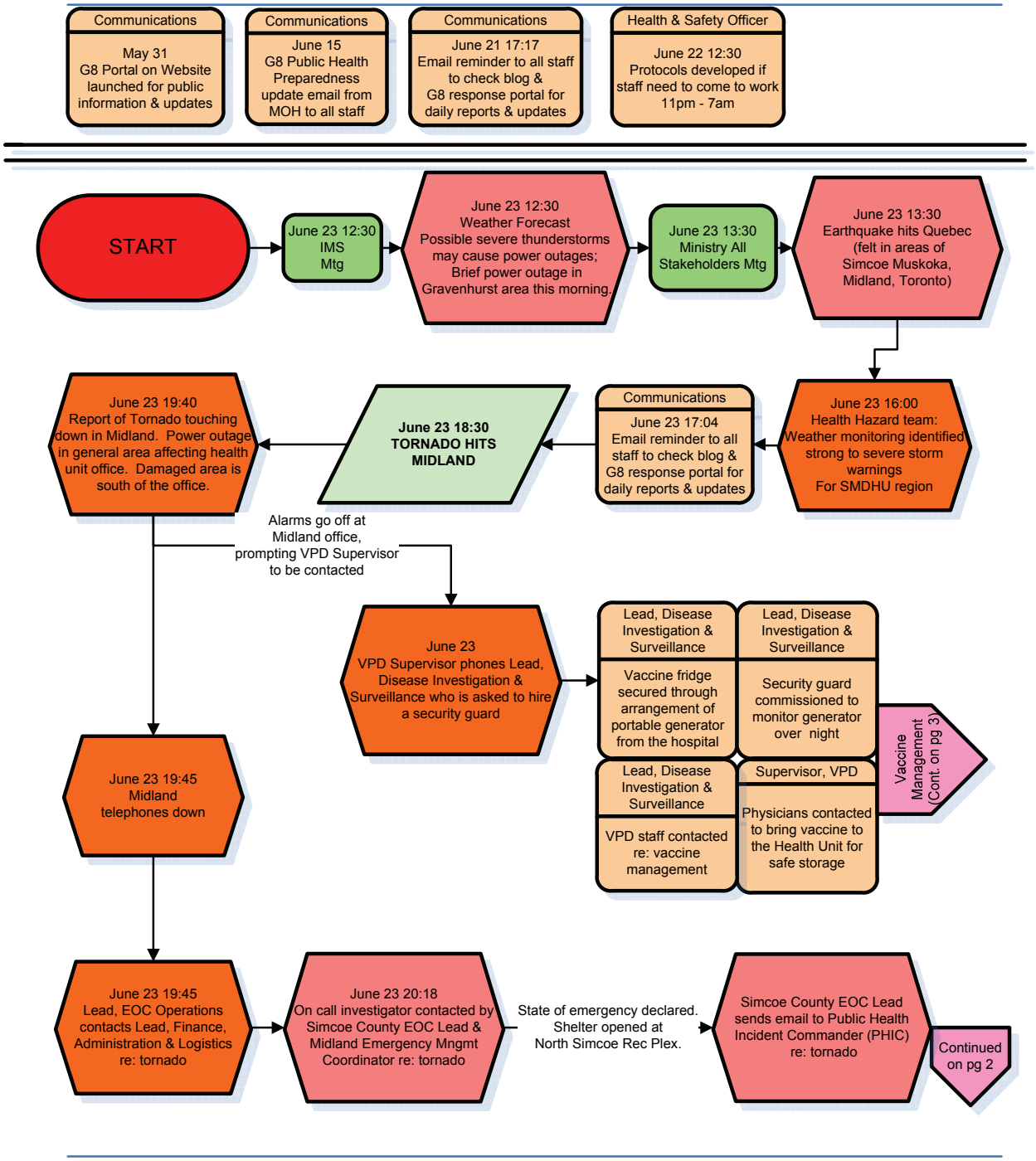
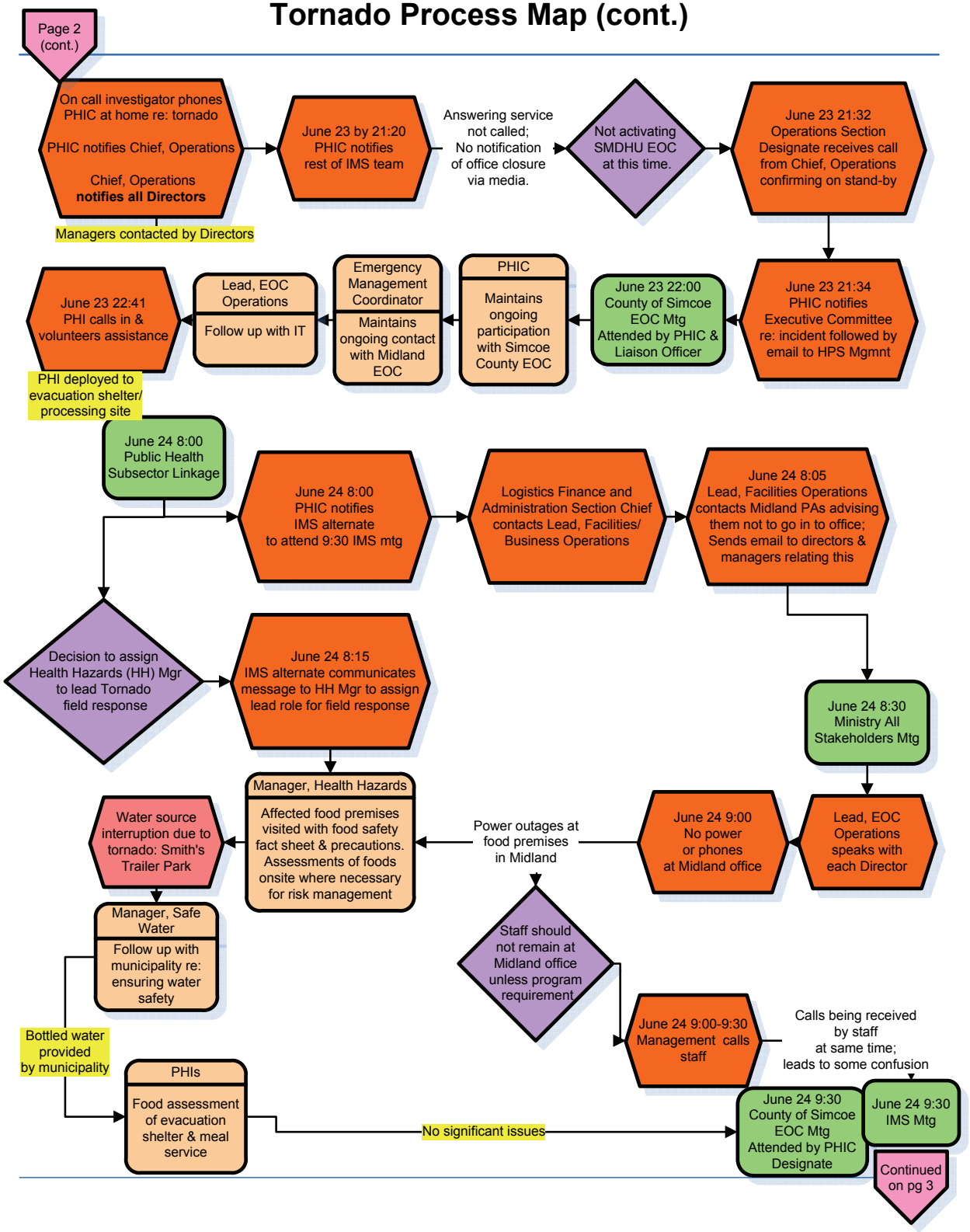
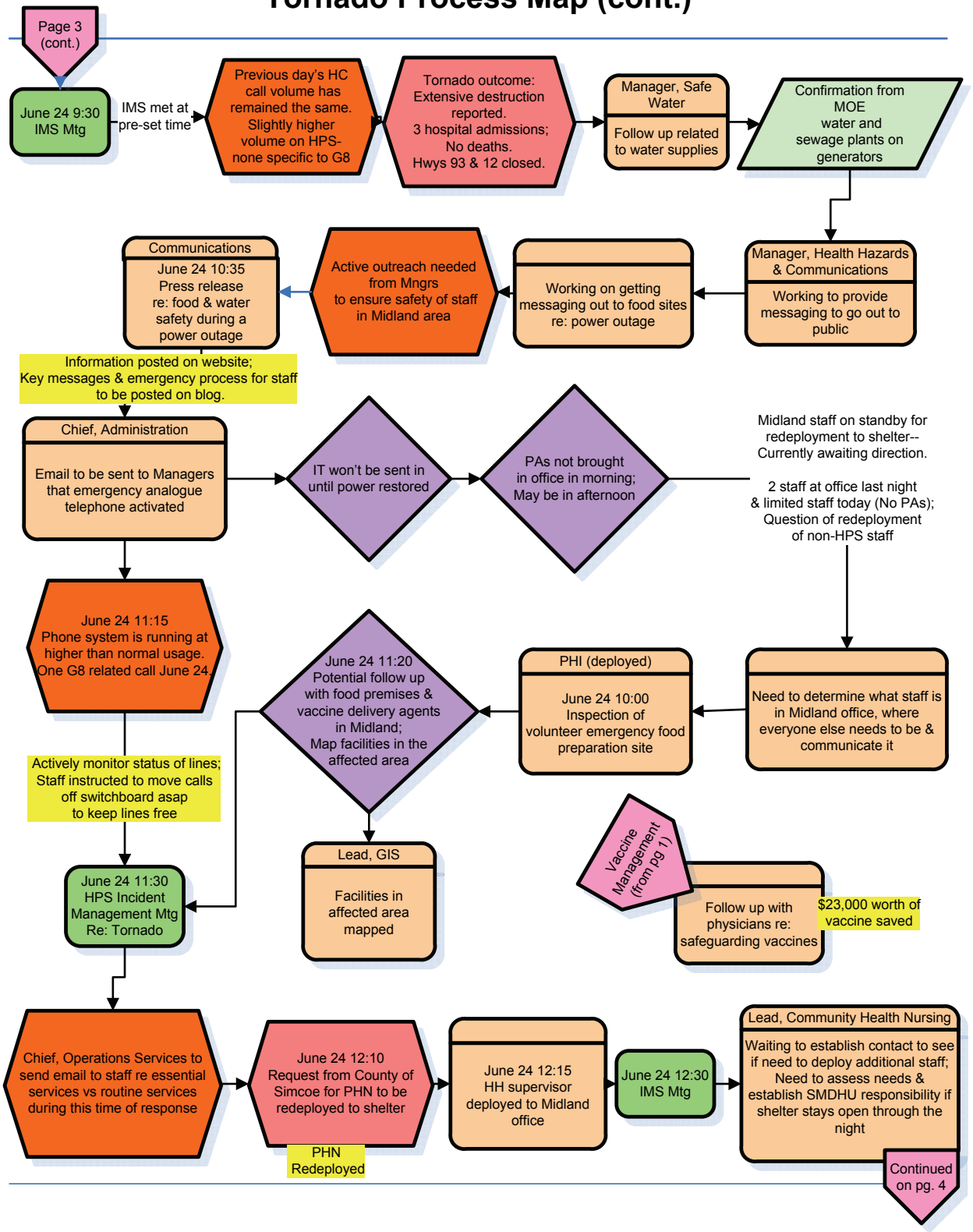
G8 Evaluation
Tornado Process Map



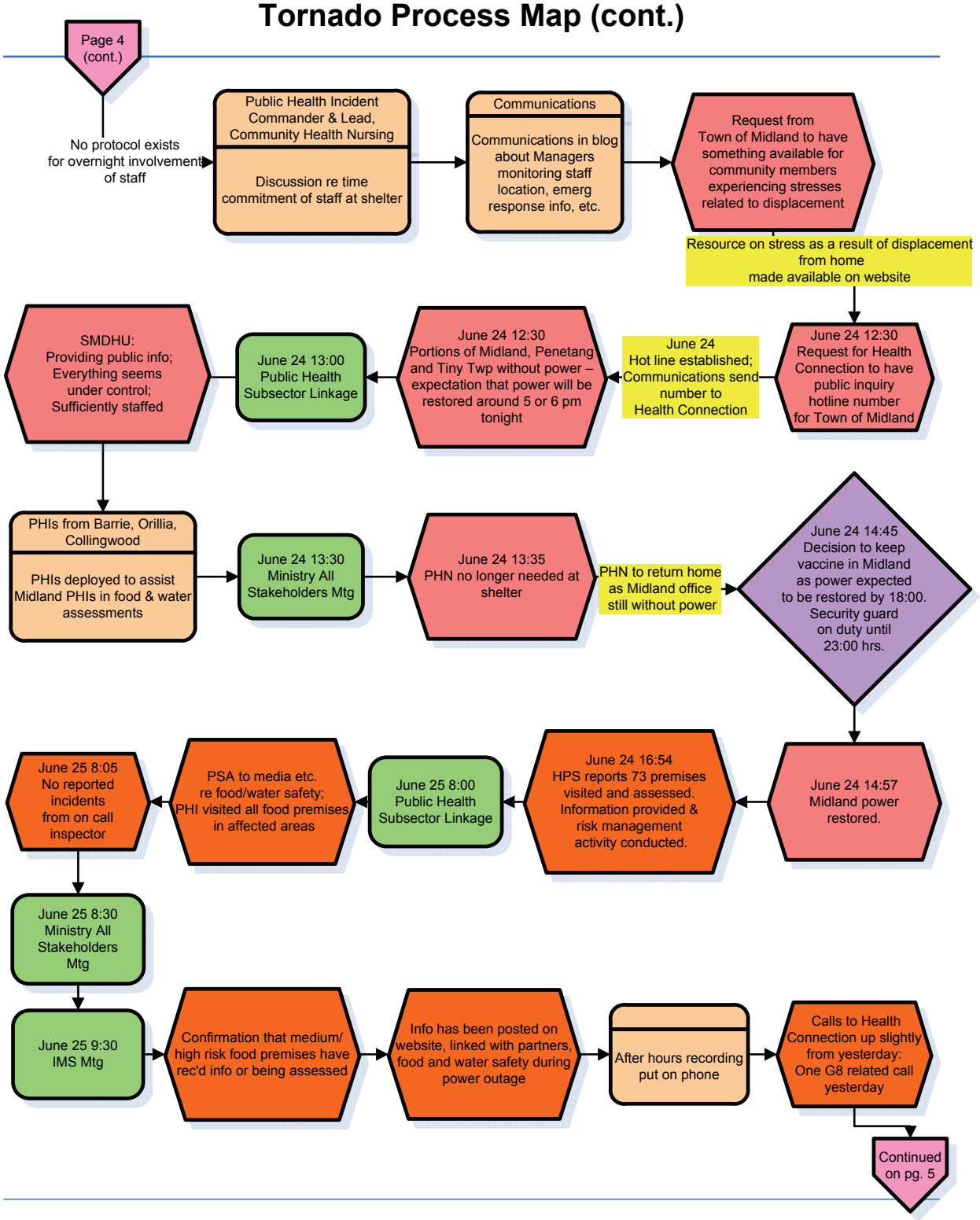
G8 Evaluation
Tornado Process Map (cont.)



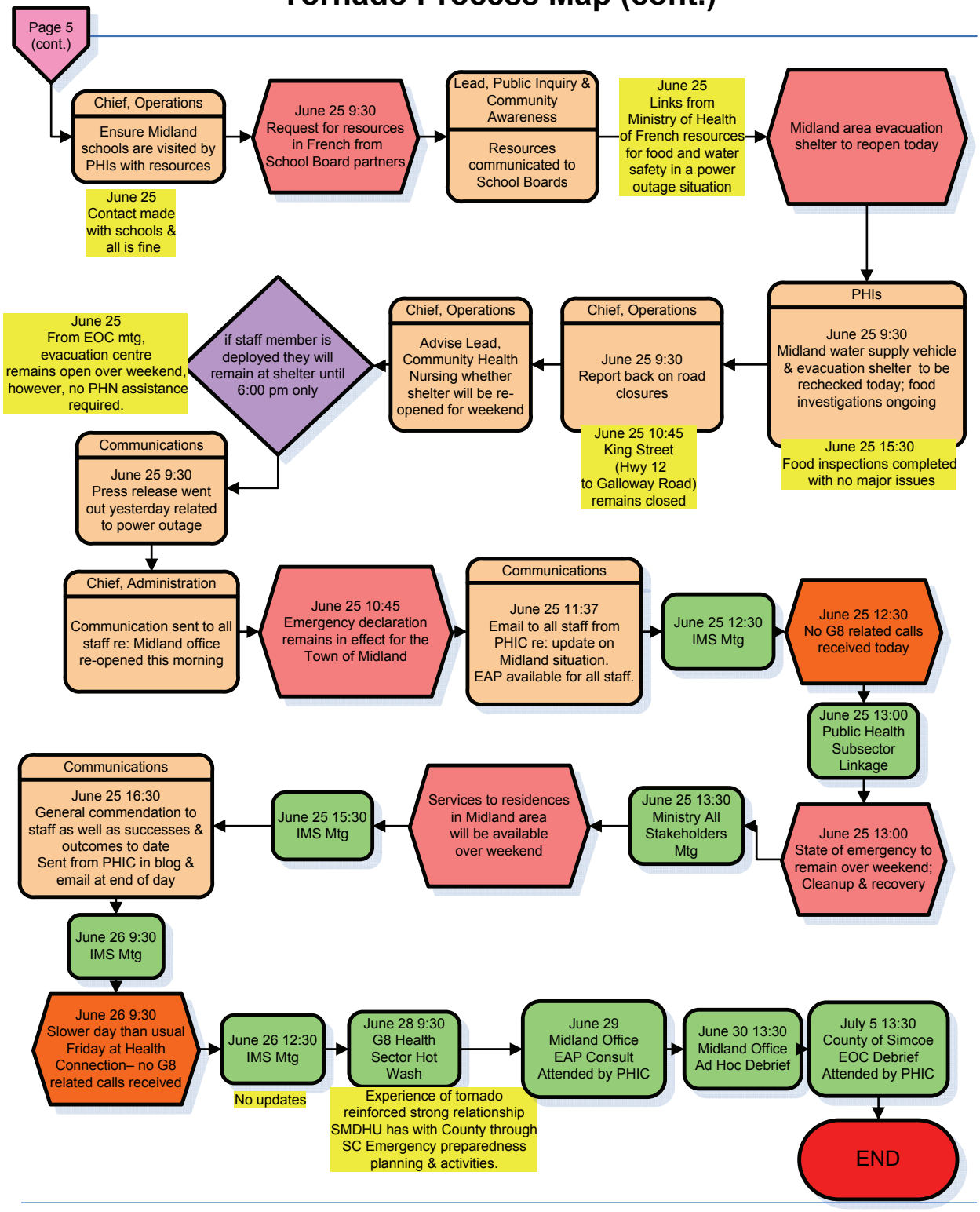
G8 Evaluation
Tornado Process Map (cont.)



G8 Evaluation
Tornado Process Map (cont.)



G8 Evaluation
Tornado Process Map (cont.)



G8 Evaluation
Tornado Process Map

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