OHA Emergency Management Toolkit

Developing a Sustainable Emergency Management Program for Hospitals

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OHA ONTARIO HOSPITAL ASSOCIATION

Delivering on the promise of health care.

Foreword

Over the past five years, Ontario's hospitals have made great strides in preparing for emergencies. From applying the lessons learned during the Severe Acute Respiratory Syndrome (SARS) outbreak, to improving collaboration to hosting and participating in training and education initiatives, hospitals are now better prepared to meet the demands of a large-scale emergency.

To support hospitals in their emergency preparedness efforts, the Ontario Hospital Association (OHA) has developed the *OHA Emergency Management Toolkit: Developing a Sustainable Emergency Management Program for the Hospital.* The toolkit includes practical tools, templates, and strategies to assist hospitals with the development and implementation of their Emergency Management Program.

Ontario hospitals are committed to quality improvement, and work hard to ensure the safety and protection of their patients, visitors and staff. Emergencies are prevented on a daily basis because of the extensive work hospitals do to mitigate their risks.

With this toolkit, the OHA is helping hospitals further strengthen their ability to plan for and respond effectively to future emergencies.

Tom Closson
President and CEO
Ontario Hospital Association

Disclaimer

This Toolkit has been prepared by the Ontario Hospital Association (OHA), as a general guide to assist hospitals in their emergency preparedness and response efforts.

The materials in this Toolkit are for general information purposes only and should be adapted to the circumstances of each hospital that uses it. The Toolkit reflects the interpretations and recommendations regarded as valid when it was published based upon available information at that time.

This Toolkit is not intended as professional advice or opinion and users are encouraged to seek their own professional advice and opinion in the development of their institution's program and specific plans. The Toolkit is not intended to be the hospital's emergency management program, but can serve as a planning guide to assist the hospital in developing and updating such a program. The OHA will not be held responsible or liable for any harm, damage or other losses resulting from reliance of the use or misuse of the general information contained in this Toolkit.

Ordering Information

Copies of the *OHA Emergency Management Toolkit* are available for purchase by contacting the Ontario Hospital Association (OHA) by email (publications@oha.com), telephone (416-205-1300), or by using our online ordering system at www.oha.com under OHA Knowledge Management Centre No.327 (ISBN 978-0-88621-328-2).

OHA Members can access additional copies of the toolkit via the Internet at www.oha.com by using their Member login and password information.

Preface

The *OHA Emergency Management Toolkit: Developing a Sustainable Emergency Management Program for Hospitals* (Toolkit) was developed in response to a need expressed by Ontario's hospitals to have a province-wide hospital emergency preparedness and response framework to further hospital readiness in addressing emergencies of all types.

This Toolkit will recommend elements of the Emergency Management Program framework for hospitals, which includes a response framework, standardized Emergency Colour Codes, and strategies, tools, and "how to" information for assisting hospitals with implementation in their facility.

How the Toolkit was Developed

A. Ontario Hospital Association

The Toolkit was approved and has been fully supported by the OHA's Health Emergency Management Committee (HEMC), convened by the OHA to provide strategic direction post-Severe Acute Respiratory Syndrome (SARS) on hospital emergency preparedness, with membership including hospital administration and clinical staff. The OHA also worked with members and others involved in emergency preparedness and management and is grateful to them for sharing tools and templates, reflective of the great planning efforts underway.

B. Working Group Support

The OHA convened a Working Group with 13 individuals from hospitals and the broader health care sector, with regional and functional role representation, to assist in developing focused objectives for the Toolkit's chapters and to provide subject matter expertise.

C. Resources

The Toolkit incorporates several standards, reports, and guidance material related to emergency preparedness and response recommendations including:

- Canadian Standards Association (CSA) Standard on Emergency Management and Business Continuity Programs CAN-CSA-Z1600

- Canadian Standards Association (CSA) Emergency Preparedness and Response Standard CAN-CSA-Z731-03

- Canadian Standards Association (CSA) Risk Management: Guideline for Decision-makers CAN-CSA-Q850-97

- The Accreditation Canada Program 2009 Standards

- *For the Public's Health: A Plan of Action* (Walker Report in 2004)

- Interim and Final Commission to Investigate the Introduction and Spread of SARS Reports (2006)

Who is the Target Audience?

The OHA represents a broad and diverse audience that includes membership of small hospitals, community hospitals, and acute and teaching hospitals. In developing the Toolkit, the OHA set out to design something that would meet the needs of all of these hospitals and also provide considerations for those members providing specialty level care (i.e., complex continuing care and mental health and rehabilitation).

The Toolkit has been organized to target recommendations and provide guidance to two specific audiences: the senior leadership and the emergency preparedness lead.

There are 159 hospital corporations in Ontario. Shown above are: Chatham Kent Healthcare Alliance, Norh Bay General Hospital and The Ottawa Hospital.

How to Read the Toolkit

The Toolkit outlines the context for emergency preparedness and response in hospitals and provides further details based on the target audience.

SECTION 1: SENIOR LEADERSHIP

This section targets the senior leadership level in the hospital, and outlines what those accountable and leading the facility need to know and do to begin and support the process, set priorities, and sustain a hospital emergency management program.

SECTION 2: EMERGENCY PREPAREDNESS LEAD

This section targets the person who is leading emergency preparedness and provides in detail information about how to develop and maintain the elements of a sustainable emergency management program for the hospital.

SECTION 3: APPENDICES

This section contains a series of appendices to summarize acronyms and resources used for the development of the Toolkit, and provides tools and templates that can assist hospitals in their emergency planning and response efforts.

Guiding Principles of the Toolkit

The material in the Toolkit is designed to address three key principles:

1. Ensuring the safety and protection of staff, patients, and visitors;
2. Meeting legislative requirements and standards; and
3. Collaboration internally and externally to ensure the coordination of resources.

Icon Legend

This icon identifies the purpose of the chapter.

This icon identifies the key elements of a Hospital Emergency Management Program.

This icon identifies how to integrate within the Hospital Emergency Management Program.

Acknowledgements

We would like to acknowledge the Working Group members who provided guidance in developing this Toolkit:

Dr. Dan Cass,
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    Ministry of Health and Long-Term Care

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Karen Sequeira,
    Ontario Hospital Association

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Preface

Senior Leadership

Chapter 1:
Leadership's Role in Emergency Preparedness and Management

Chapter 1: Leadership's Role in Emergency Preparedness and Management

To ensure the safety and protection of staff, patients, and visitors, being prepared is essential, particularly in ensuring the most efficient and effective use of resources. There is increased risk associated with not being prepared (e.g., legal, financial, and reputational losses), such that when emergencies do occur, they can be expensive. Preparedness is broader than just the development of policies, plans, and procedures. It encompasses developing a program that supports emergency preparedness and management in the hospital.

> The purpose of this chapter is to define and establish what the CEO and senior leadership team need to know and do to support their hospital emergency management program. Upon completion of this chapter you should understand:
>
> - Types of legislation and standards in place and how they impact the hospital and leadership decisions.
> - Roles and responsibilities of the senior leadership for emergency preparedness and response.
> - Elements of a hospital emergency preparedness and management program and how to remain actively engaged.

What You Need to Know

What is an Emergency?

An emergency is a situation or an impending situation that constitutes a danger of major proportions that could result in serious harm to persons or substantial damage to property, and that is caused by the forces of nature, a disease or other health risk, an accident, or an act whether intentional or otherwise.[1]

Provincial Legislation and Standards for Emergencies

Emergency management takes place in the context of a complex framework of legislation and standards, which address a range of topics including but not limited to how an emergency is declared and the special powers that come into place once it has been declared, general emergency planning requirements for hospitals, obligations related specifically to infectious disease emergencies, requirements for maintaining Accreditation Canada accreditation, and the obligations a hospital, as an employer has towards it employees.

Much of the pertinent legislation and standards guiding emergency planning and management are already in place, and as outlined below, hospitals are influenced by and operate within this framework. Refer to the Toolkit Appendix Tools and Templates section for the Impact of Legislation and Standards on the Hospital table.

- *Public Hospitals Act*
- *Health Protection and Promotion Act*
- *Emergency Management and Civil Protection Act*
- *Occupational Health and Safety Act*
- *Workplace Safety and Insurance Act*
- Canadian Standards Association (CSA) Emergency Management and Business Continuity Programs CAN-CSA Z1600-08
- Canadian Standards Association (CSA) Emergency Preparedness and Response Standard CAN-CSA-Z731-03
- Canadian Standards Association (CSA) Risk Management: Guideline for Decision-makers CAN-CSA-Q850-97
- Accreditation Canada Program 2009 Standards

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1   *Emergency Management and Civil Protection Act, R.S. O 1990, c.E. 9, http://www.elaws.gov.on.ca*

Accreditation Canada: specifically holding the leadership of the hospital accountable through the Accreditation Canada Program Standards which include:

11.0 The organization's leaders prepare a plan to address the risk of disasters and emergencies.

11.1 The organization's leaders align the organization's disaster and emergency plan with those of partner organizations and local, regional, and provincial governments.

11.2 The plan identifies who is responsible for managing and coordinating responses to emergency situations during regular and off hours.

11.3 The plan addresses back-up systems, communication processes, and emergency response systems needed during emergency situations.

11.4 The organization's leaders organize regular inspection, testing, and maintenance of fire detection, warning, and extinguishing systems to reduce the risk of fire.

11.5 The organization's leaders educate staff, service providers, and clients and families about fire safety and the prevention of fire.

11.6 The organization's leaders regularly test the organization's disaster and emergency plans with drills and exercises.

11.8 The organization's leaders use the results from post-drill analysis and debriefings to review and revise if necessary, its disaster and emergency plans and procedures.

11.9 When disasters or emergencies do occur, the organization's leaders provide staff, service providers, clients, and the community with support and debriefing opportunities.

Accreditation Canada Program 2009

What does this mean for the hospital?

Under the *Public Hospitals Act*, the hospital board has an ethical and legal mandate to oversee risk management plans for situations that could place a greater than normal demand on the service provided by the hospital or disrupt the normal hospital routine.[2] Oversight includes ensuring that management has implemented a proper risk identification and assessment mechanism, as the board must also approve the management plan to address emergencies and processes to identify, manage, and minimize risks. This could theoretically be satisfied by regular updates to the board on related issues from the CEO or other executives.[3]

Roles and Responsibilities in Emergency Preparedness and Management

Each of the different levels of government (e.g., federal, provincial, municipal) play a role in emergency preparedness and management, as noted in Figure 1.1.

What does this mean for the hospital?

Priorities for hazards are set at national, provincial, and local levels. When a hospital sets out to develop plans to deal with emergencies, preparedness efforts must encompass these expectations, along with specific efforts for hazards inherent to the hospital itself. The CEO and senior leadership team provide guidance and assume overall responsibility, accountability, and authority of the program, and are charged with developing a policy statement for the organization.[4] This helps in sorting between competing priorities and providing support on making budget decisions.

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2   OHA Good Guide to Governance, Corbett and Mackay, 2005;
3   Seeman, N. Baker, R, Brown, A. Emergency Planning in Ontario's Acute Care Hospitals: A Survey of Board Chairs – Healthcare Policy vol 3, No. 3, 2008;
4   Canadian Standards Association (CSA) Emergency Management and Business Continuity Programs CAN-CSA Z1600-08; Canadian Standards Association (CSA) Emergency Preparedness and Response Standard CAN-CSA-Z731-03 *www.csa.ca*

Figure 1.1: Roles and Responsibilities for different levels of government for preparedness and response to emergencies.

The Government of Canada is responsible for planning and coordinating the nation-wide responses using the *Emergency Management Act* (Federal Legislation) legal framework:

- Public Health Agency of Canada – Centre for Emergency Preparedness and Response: has responsibility for health emergency management at the federal level. This includes both a national emergency stockpile and a national response team, which are requested through the provincial ministry. Refer to www.phac-aspc.gc.ca for further information

The Government of Ontario is responsible for planning and coordinating provincial-wide responses using the *Emergency Management and Civil Protection Act* framework:

- Emergency Management Ontario (EMO) is responsible for the overall preparedness and coordination of emergency management for all areas of critical infrastructure except health (e.g., power, telecommunications).
- Emergency Management Unit (EMU) was created by the Ministry of Health and Long-Term Care (MOHLTC) to plan, organize, manage and coordinate provincial responses to emergencies that affect health (e.g., pandemic influenza). It funds and supports the Emergency Medical Assistance Team (EMAT), which in turn supports health emergency responses. Refer to *www.health.gov.on.ca* for further information about EMU activities.
- There is no formal role in emergency response for the Local Health Integration Networks (LHIN), however the MOHLTC will be evaluating their role further.

Municipal government and Public Health authorities are responsible for coordinating local responses that they have been assigned to:

- Municipality must have an emergency management program to address priority hazards (e.g., power, telecommunications).
- Public Health Units support planning and response efforts that impact the public health of the community (e.g., pandemic influenza).

OHA: Develop strategies and tools to support hospital preparedness efforts, and support hospitals in emergency response by serving as a conduit for communications between the provincial and hospital level.

Hospitals are required to have emergency response plans that address the risk of disasters and emergencies.

The Emergency Management Process:

Emergency management process is the process of dealing with and avoiding risks by identifying them and setting up a series of measures to protect the hospital. Actions taken depend on the perceived risk of the hazard. Emergency management involves four phases, which generally, but not always, follow a pattern: prevention/mitigation; preparedness; response; and recovery[5] (refer to Figure 1.2).

Figure 1.2: The Hospital Emergency Management Process

What does this mean for the hospital?

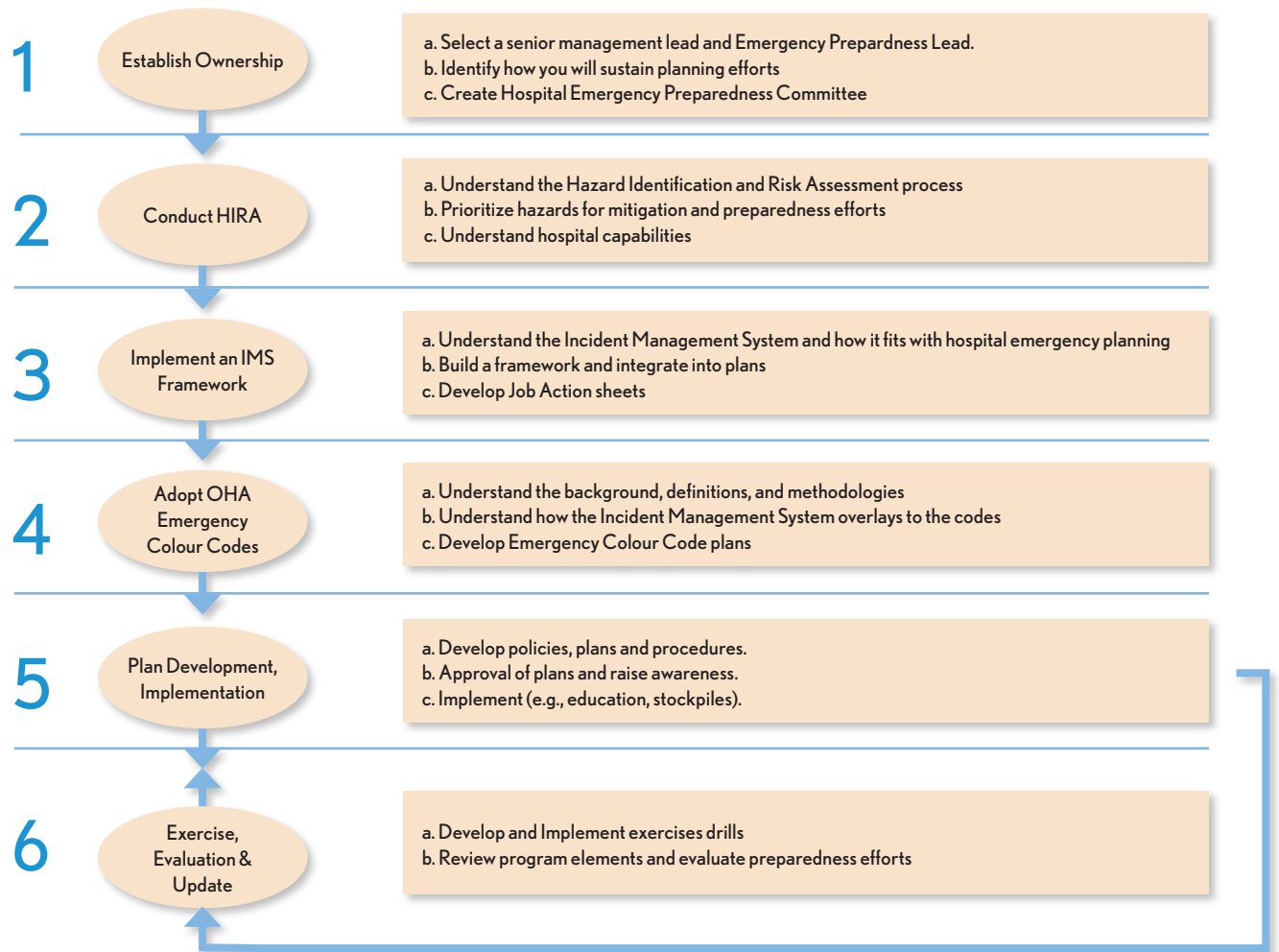Emergency preparedness and management is broader than just response plans, it encompasses understanding the reasons for risk and strategies to minimize it through a systematic and logical process. It is also a matter of considering all phases to ensure that there are multiple measures that protect the hospital from the risk, and help decrease the magnitude of harm.

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5   Emergency Management in Ontario. OHPIP Chapter 2, page 5.

Six Elements for a Hospital Emergency Management Program

Commitment to emergency preparedness and management entails developing and maintaining an iterative process that involves six elements: (refer to Figure 1.3).

Figure 1.3: The hospital Emergency Management Program

1 Establish Ownership

a. Select a senior management lead and Emergency Prepardness Lead.
b. Identify how you will sustain planning efforts
c. Create Hospital Emergency Preparedness Committee

2 Conduct HIRA

a. Understand the Hazard Identification and Risk Assessment process
b. Prioritize hazards for mitigation and preparedness efforts
c. Understand hospital capabilities

3 Implement an IMS Framework

a. Understand the Incident Management System and how it fits with hospital emergency planning
b. Build a framework and integrate into plans
c. Develop Job Action sheets

4 Adopt OHA Emergency Colour Codes

a. Understand the background, definitions, and methodologies
b. Understand how the Incident Management System overlays to the codes
c. Develop Emergency Colour Code plans

5 Plan Development, Implementation

a. Develop policies, plans and procedures.
b. Approval of plans and raise awareness.
c. Implement (e.g., education, stockpiles).

6 Exercise, Evaluation & Update

a. Develop and Implement exercises drills
b. Review program elements and evaluate preparedness efforts

What You Need to Do

Develop a Sustainable Emergency Management Program for the Hospital

1. Confirm which senior manager has accountability and ownership of emergency preparedness.

This step is a key success factor in the long-term sustainability of the program. Both the CEO and senior management lead should endorse their support of a hospital emergency management program, develop a policy statement reflecting the hospital's commitment to it, and make a commitment to providing necessary resources. This person will be responsible for reporting back to the board.

2. Designate an emergency preparedness lead.

This person will work with the senior management lead and develop the emergency management program, ensuring the hospital is in compliance with legislation and standards and is linked to the broader community. This person should be knowledgeable in emergency preparedness and management, and will play a role in supporting the Emergency Preparedness Committee and ensure that specific plans, policies, and procedures are developed on time with involvement of relevant experts.

3. Ensure the hospital has an Emergency Preparedness Committee.

The Committee, multidisciplinary by nature, can provide both the expertise required to develop specific plans and procedures and the buy-in to approve what the hospital will do during an emergency. Members of the committee may be internal or external to the hospital, and participate in the response phase.

4. Collaborate with the community.

Ensure that the hospital is well integrated with the Community stakeholders (e.g., Local Health Integration Network, Public Health Unit, and Municipality), and the OHA at the strategic and operational levels. This can help to ensure that planning processes are integrated, roles and responsibilities are understood, and that the hospital is involved with educational sessions and training exercises.

5. Ensure completion of a Hazard Identification and Risk Assessment (HIRA).

The HIRA is a systematic process of identifying known hazards or risks that are internal and external to the facility, rating them according to likelihood and impact, and prioritizing them for planning purposes. Cost-and-benefits for mitigation and key preparedness strategies will be developed.

6. Adopt the Incident Management System (IMS).

The IMS is a standardized response framework in which preparedness strategies will be formatted, whether recurring or as one-time events. During the response phase, while the CEO or a member of senior management may not lead the actual response, the final responsibility for the resolution remains with the CEO and it is important to be knowledgeable about and remain an active supervisor or supporter.

7. Adopt the OHA standardized emergency colour codes.

Developed to ensure consistency across the province in those responses that require immediate action by hospital staff. These were re-standardized in 2008 and there are new codes.

8. Develop and finalize plans, and educate staff.

Senior management will play an integral role in approving plans, confirming strategies and procedures during emergencies, and connecting with stakeholders to build awareness and create change. Further, ensuring and supporting staff in educational and training needs to build competencies in the hospital and understand duties depending on their roles.

9. Exercise, evaluate, and update the program.

Senior management should participate in exercises that will specifically allow them to test the roles they will play during emergencies, and types of decisions that they may have to make. Evaluation should occur after both planned exercises and real emergencies, to ensure that plans and procedures are up-to-date with the realities of response.

Resources

Background; Roles, Responsibilities, and Framework for Decision-Making Ontario Health Pandemic Influenza Plan
http://www.health.gov.on.ca/english/providers/ program/emu/pan_flu/pan_flu_plan.html

Canadian Standards Association
http://www.csa.ca

Legislative Issues & Analysis – Backgrounders, Analysis and Submissions
http://www.oha.com

Ministry of Health and Long-Term Care, Emergency Management Unit
http://www.health.gov.on.ca

OHA Guide to Good Governance
http://www.oha.com

Public Health Agency of Canada
www.phac - aspc.gc.ca

Seeman, N. Baker, R. and Brown, A. Emergency Planning in Ontario's Acute Care Hospitals: A Survey of Board Chairs. Healthcare Policy Vol 3, No. 3 (2008), 64-74

Service Ontario, e-laws (Collection of free legislation and regulations)
http://www.e-laws.gov.on.ca

Checklist

Provincial Legislation

☐ Understand the legal and regulatory framework in which the hospital will operate during an emergency.

☐ Consider the impact of legislation on the hospital pandemic plan and response. Refer to the Toolkit Appendix Tools and Templates.

Roles and Responsibilities

☐ Understand the roles and responsibilities for planning and response to emergencies, and where the hospital fits in.

☐ Ensure that a member of the senior leadership team has overall responsibility for the hospital emergency management program.

☐ Designate an emergency preparedness lead to help coordinate and develop policies, plans, and procedures.

☐ Ensure the hospital has an Emergency Management Committee.

☐ Ensure that the hospital is well connected to the community stakeholders at both strategic and operational levels.

Hazard Identification and Risk Assessment (HIRA)

☐ Complete a HIRA for the hospital. The HIRA must be reviewed and updated on an annual basis, or after every emergency of significant impact.

Incident Management System

☐ Adopt the incident management framework at the hospital. Develop an IMS system and job action sheets to integrate into emergency response plans.

☐ Ensure familiarity with IMS and how it will be utilized to coordinate provincial and local responses.

OHA Emergency Colour Codes

☐ Adopt the OHA standardized Emergency Colour Codes and develop plan and procedures for implementation in the hospital.

Develop Plans

☐ Provide input into hospital strategies during emergencies, support towards budgetary decisions, and approval of plans and procedures.

☐ Ensure hospital staff are trained to meet their responsibilities for emergency preparedness and management.

Exercise, Evaluate and Update the Plan

☐ On an annual basis, complete at least one exercise to test out emergency response plans and update accordingly.

SECTION 2:

Emergency Preparedness Lead

Chapter 2:
The Hospital Emergency Management Program

Chapter 2: The Hospital Emergency Management Program

Emergencies can happen anytime, anywhere, and impact any number of people. An emergency is "a situation or an impending situation that constitutes a danger of major proportions that could result in serious harm to persons or substantial damage to property and that is caused by the forces of nature, a disease or other health risk, an accident or an act whether intentional or otherwise".[6] It can be a gradual onset, with enough warning to prepare and activate plans, or it can be sudden.

Ontario has a history of emergencies with varying duration and magnitudes, including the Mississauga Train Derailment (1979), the Hamilton Recycling Plant fire (1997), Eastern Ontario Ice Storm (1998), and Severe Acute Respiratory Syndrome or SARS (2003). In all cases, hospitals assisted in the response, caring for patients with injuries from the emergency. The hospital can also face internal emergencies (e.g., fire, flood, hazardous spills). An emergency management program, with corresponding plans can help to ensure the safety and protection of staff, patients, and visitors and continuity of the provision of services to the community.

The purpose of this chapter is to provide a framework for the hospital to develop an emergency management program. Upon completion of this chapter you should understand:

- The elements of the emergency management process.
- The six steps of a sustainable emergency management program.

What You Need to Know

The Emergency Management Process

Emergency management is defined as "comprehensive programs and activities taken to identify hazards and manage risks, and deal with actual or potential emergencies or disasters".[7] Actions taken depend on the perceived risk of the hazard. It involves four phases, which generally, but not always, follow a pattern of prevention/mitigation; preparedness; response; and finally recovery (Figure 2.1).[8]

It is broader than just response plans, encompassing both the assessment of potential hazards and risk, and strategies to minimize them through developing multiple measures to protect the hospital in an effort to decrease the magnitude of harm.

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6 Emergency Management and Civil Protection Act; *http://www.e-laws.gov.on.ca*

7 Emergency Management Doctrine for Ontario – Emergency Management Ontario August 17,2005
8 Emergency Management in Ontario. OHPIP 2007 Chapter 2, page 5; R. Sturgis, Strategic planning for emergency managers, Journal of Emerg. Man. Vol 5; No. 2, March/April 2007

Figure 2.1: The Hospital Emergency Management Process

Prevention/Mitigation: actions taken to avoid/eliminate disaster from occurring, or reduce the impact of one.

Preparedness: process of developing plans of action to deal with the disaster when it occurs. Activities include identifying resources, building capacity, and training staff.

Response: mobilization of resources to respond to the disaster.

Recovery: processes to restore the affected area back to 'normal'.

Six Elements of a Hospital Emergency Management Program

The OHA has developed and recommends the following six steps for the development of a sustainable hospital emergency preparedness and management program, which encompasses standards and best practices. The following chapters provide further detail on this iterative process (see Figure 2.2).

1. Confirm Accountability and Ownership of Emergency Preparedness

This is a success factor for the long-term sustainability of the program, as it will ensure that there is a member from senior management championing the program and a designated lead person to coordinate and ensure that the program is meeting objectives. The development of an Emergency Preparedness Committee can provide both the expertise required to develop plans and policies and the buy-in to approve the hospital response.

2. Complete a Hazard Identification and Risk Assessment (HIRA)

The HIRA is a systematic process of identifying known hazards or risks that are internal and external to the facility, rating them, and prioritizing them for mitigation and preparedness activities. The OHA provides guidance to hospitals on how to complete a HIRA.

3. Adopt the Incident Management System (IMS) Framework

The IMS is a standardized response framework that can be used to respond to incidents of any kind. The OHA provides direction on how this framework can be applied in hospitals, for both preparedness and response activities.

4. Adopt the OHA Standardized Hospital Emergency Codes

The OHA has re-standardized the hospital emergency codes. Hospitals should understand the background, definitions, and methodologies of using the codes, and how to overlay the IMS framework to the colour codes.

Figure 2.2: The Six elements of a Emergency Management Program

1 Establish Ownership

a. Select a senior management lead and Emergency Prepardness Lead
b. Identify how you will sustain planning efforts
c. Create an Hospital Emergency Preparedness Committee

2 Conduct HIRA

a. Understand the Hazard Identification and Risk Assessment process
b. Prioritize hazards for mitigation and preparedness efforts
c. Understand hospital capabilities

3 Implement an IMS Framework

a. Understand the Incident Management System and how it fits with hospital emergency planning
b. Build a framework and integrate into plans
c. Develop Job Action sheets

4 Adopt OHA Emergency Colour Codes

a. Understand the background, definitions, and methodologies
b. Understand how the Incident Management System overlays to the codes
c. Develop Emergency Colour Code plans

5 Plan Development, Implementation

a. Develop policies, plans and procedures.
b. Approval of plans and raise awareness.
c. Implement (e.g., education, stockpiles).

6 Exercise, Evaluation & Update

a. Develop and Implement exercises drills
b. Review program elements and evaluate preparedness efforts

5. Plan Development and Implementation

Developing policies, plans and procedures to support the program elements, then obtaining approval and sharing program components with stakeholders to build awareness and build competencies through education and training.

6. Exercises, Evaluation and Updating the Program

Program elements and specific plans should be regularly reviewed and updated to ensure they are consistent with standards and guidelines, and also the realities of the hospital and community environment.

Resources

Adini, B. Goldberg, A. et. Al; Assessing Levels of
Hospital Emergency Preparedness (2006)
Prehospital and Disaster Medicine. Vol 21,
No. 6; 451-457 – November_december 2006;
http://pdm.medicine.wisc.edu

Disaster Planning for Health Care Facilities;
Third Edition; James Hanna

Emergency Management Doctrine for Ontario
http://www.emergencymanagementontario.ca

NFPA Standard on Emergency Services Incident
Management System (2005 Edition)

OHA Emergency preparedness in Ontario Hospitals:
a Human Resources Perspective. Report of
the Human Resources Emergency
Preparedness Work Group (April 2005)

Ontario Health Plan for an Influenza Pandemic,
MOHLTC *http://www.health.gov.on.ca*

Risk Management Guideline for Decision-Makers:
A National Standard of Canada
CAN/CSA-Q850-97

Service Ontario, e-laws (collection of free legislation
and regulations) *http://www.e-laws.gov.on.ca*

Sturgis, R. Strategic Planning for Emergency Managers.
Journal; of Emergency Management.
Vol 5, No. 2, March/April 1 2007

Checklist

Provincial Legislation

☐ Understand the legal and regulatory framework under which the hospital will operate during an emergency.

☐ Consider the impact of legislation on the hospital pandemic plan and response. Refer to the Toolkit Appendix Tools and Templates.

Roles and Responsibilities

☐ Understand the roles and responsibilities for planning and response to emergencies, and where the hospital fits in.

☐ Ensure that a member of the senior leadership team has overall responsibility for the hospital emergency management program.

☐ Understand roles and responsibilities as emergency preparedness lead to help coordinate the hospital emergency management program and develop policies, plans, and procedures.

☐ Ensure the hospital has an organizational policy about emergency management and clear program goals and objectives. This is reviewed on an annual basis.

☐ Ensure the emergency management program has a dedicated budget.

☐ Ensure the hospital has an active Emergency Preparedness Committee that meets regularly.

☐ Ensure that the hospital is well connected to the community stakeholders at both strategic and operational levels.

Chapter 3:
Establish Ownership and Commitment

Chapter 3: Establish Ownership and Commitment

The process of developing a sustainable hospital emergency preparedness program can be overwhelming, particularly where legislation, policies and expectations that have been outlined at national and provincial levels must be understood and heeded. Creating an effective program requires ownership and commitment at all levels, and encompasses both strategic and operational components.

> The purpose of this chapter is to define roles and responsibilities for the hospital emergency management program. Upon completion of this chapter you should understand:
>
> - The types of legislation and standards and how they impact the hospital.
> - The roles and responsibilities of the hospital for emergency preparedness and response.
> - The purpose and mandate of the Emergency Preparedness Committee.
> - How to get started in developing a hospital emergency management program.

Guiding Principles:

- Develop a program that meets the mandate and goal to decrease the impact of emergencies and improve the safety and protection of staff, patients and visitors.

- Adopt a culture that believes the emergency preparedness program must be an organizational priority.

- Senior administration, the program lead, and the emergency preparedness committee must support the implementation and execution of the program.

What You Need to Know

Provincial Legislation and Standards for Emergencies

Emergency management takes place in the context of a complex framework of legislation and standards, which address a range of topics, including but not limited to, how an emergency is declared and the special powers that come into place once it has been declared; general emergency planning requirements for hospitals; obligations related specifically to infectious disease emergencies; requirements for maintaining Accreditation Canada accreditation; and the obligations a hospital has, as an employer, towards it employees.

In Ontario, emergency preparedness documents generally begin as doctrine or policy creation, then become legislation, then regulations, then Ministry directives, then standards and guidelines, and finally recommendations, plans, and procedures. Much of the pertinent legislation and standards guiding emergency planning and management are already in place, and hospitals are influenced and operate within this framework. Refer to the Toolkit Appendix Tools and Templates section for the Impact of Legislation and Standards on Hospitals table.

- *Public Hospitals Act*

- *Health Protection and Promotion Act*

- *Emergency Management and Civil Protection Act*

- *Occupational Health and Safety Act*

- Canadian Standards Association (CSA) Emergency Management and Business Continuity Programs CAN-CSA Z1600-08

- Canadian Standards Association (CSA) Emergency Preparedness and Response Standard CAN-CSA-Z731-03

- Canadian Standards Association (CSA) Risk Management: Guideline for Decision-makers CAN-CSA-Q850-97

- The Accreditation Canada Program 2009 Standards

Accreditation Canada: specifically hold the leadership of the hospital accountable through the A.C. program standards, which include:

11.0 The organization's leaders prepare a plan to address the risk of disasters and emergencies.

11.1 The organization's leaders align the organization's disaster and emergency plan with those of partner organizations and local, regional, and provincial governments.

11.2 The plan identifies who is responsible for managing and coordinating responses to emergency situations during regular and off hours.

11.3 The plan addresses back-up systems, communication processes, and emergency response systems needed during emergency situations

11.4 The organization's leaders organize regular inspection, testing, and maintenance of fire detection, warning, and extinguishing systems to reduce the risk of fire.

11.5 The organization's leaders educate staff, service providers, and clients and families about fire safety and the prevention of fire.

11.6 The organization's leaders regularly test the organization's disaster and emergency plans with drills and exercises.

11.7 The organization's leaders use the results from post-drill analysis and debriefings to review and revise if necessary, its disaster and emergency plans and procedures.

11.8 When disasters or emergencies do occur, the organization's leaders provide staff, service providers, clients, and the community with support and debriefing opportunities.

Accreditation Canada Program 2009

What does this mean for the hospital?

Legislation and standards outline what is required of hospitals to prepare for emergencies (i.e., *Public Hospitals Act*, CSA Z1600). In the event of a provincial-scale emergency, legislation allows for command and control that may impact the hospital operations and how things get done at the facility level. For instance, the *Emergency Management and Civil Protection Act* (EMCPA) establishes the Province's legal basis and framework for managing provincial emergencies. The box below provides some examples of the types of emergency orders that may be issued by Cabinet when using the EMCPA.

Key emergency orders that may be issued by Cabinet include:

- Implementing emergency plans

- Regulating and prohibiting travel or movement

- Establishing facilities such as shelters and hospitals

- Closing any place – public or private

- Using and making available any necessary good, services and resources

- Authorizing those who would not otherwise be eligible to do so to perform certain duties
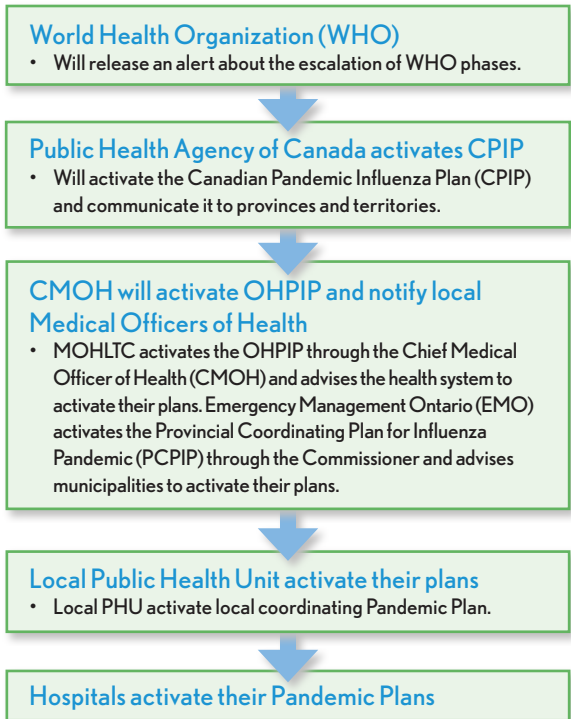
The EMPCA is only one source of orders. There are also provincial public health powers under the *Health Protection and Promotion Act* (HPPA). For example, the Chief Medical Officer of Health can issue directives to any health care provider regarding precautions and procedures necessary to protect the health of persons anywhere in Ontario. This does not require the declaration of an emergency. It is worth noting that neither the EMPCA nor a directive from the HPPA can conflict with the *Occupational Health and Safety Act* (OHSA), which supersedes all other emergency legislation.

How will the legislation be applied during an emergency?

The EMCPA addresses declared emergencies in Ontario. For instance, in the event of an influenza pandemic, the pandemic plan will be activated as follows using the EMPCA:

• If, in the Premier's opinion, the urgency of the situation requires that an order be made immediately, the Lieutenant Governor in Council or the Premier may declare that an emergency exists throughout Ontario or in any part thereof.

• A head of municipal council may declare that an emergency exists in the municipality or part of the municipality, and may take action and issue orders to implement the emergency plan of the municipality, and to protect property as well as the health, safety and welfare of the inhabitants of the emergency area

Vertical Lines of Communication to Activate the Pandemic Plan:

World Health Organization (WHO)
• Will release an alert about the escalation of WHO phases.

Public Health Agency of Canada activates CPIP
• Will activate the Canadian Pandemic Influenza Plan (CPIP) and communicate it to provinces and territories.

CMOH will activate OHPIP and notify local Medical Officers of Health
• MOHLTC activates the OHPIP through the Chief Medical Officer of Health (CMOH) and advises the health system to activate their plans. Emergency Management Ontario (EMO) activates the Provincial Coordinating Plan for Influenza Pandemic (PCPIP) through the Commissioner and advises municipalities to activate their plans.

Local Public Health Unit activate their plans
• Local PHU activate local coordinating Pandemic Plan.

Hospitals activate their Pandemic Plans

In developing specific strategies, plans, and procedures, the hospital should consider those situations where a provincial emergency may result, such as a pandemic influenza, and the types of emergency orders that could result. For instance, an emergency order that closes schools and daycares will have impact on hospital staff who have children, which in turn could increase absenteeism rates if staff are unable to find alternative child care options. Refer to the Toolkit Appendix Tools and Templates section for the Impact of Legislation/Standards on the Hospital Table.

Roles and Responsibilities for Emergency Planning and Response

It is important to understand how the roles and responsibilities for the different "vertical" levels (i.e., national, provincial, and local) of government interconnect in preparing for and responding to emergencies, and how this connects to the hospital (see Figure 3.1).
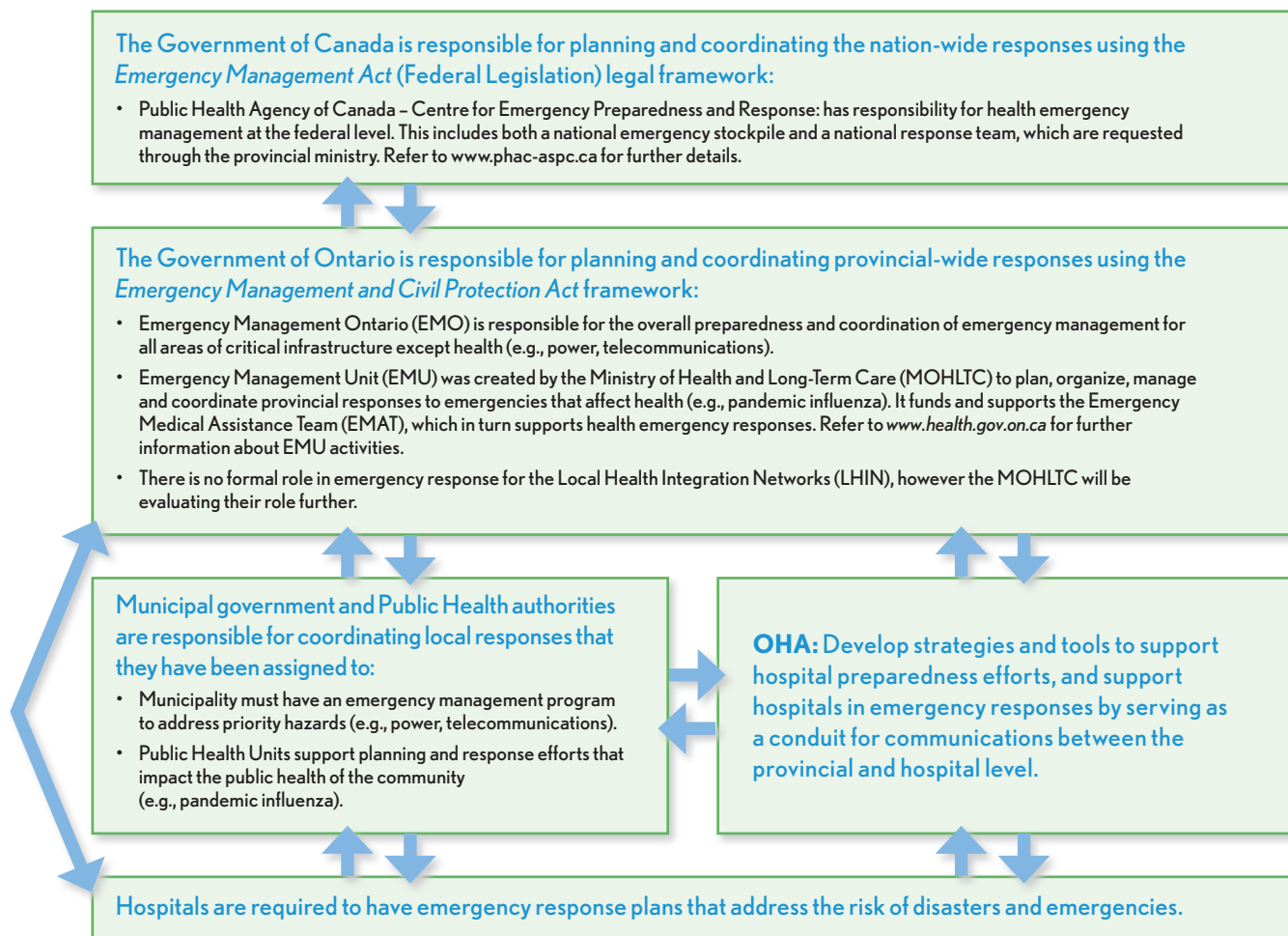
What does this mean for the hospital?

The hospital board has an ethical and legal mandate to oversee management risk plans for situations that could place a greater than normal demand on the service provided by the hospital or disrupt the normal hospital routine.[9] This includes approving plans and processes to identify and minimize risks.

The list of situations that could disrupt the normal hospital routine is very extensive. Knowing how to set priorities and get started is important. It is also important to understand priorities identified by the MOHLTC and other regulating bodies for preparedness efforts, and understand the specific roles and responsibilities identified for the hospital.

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9   Corbett, Mackay, P. (2005) OHA Guide to Good Governance

Figure 3.1: Roles and Responsibilities for different levels of government for preparedness and response to emergencies.

The Government of Canada is responsible for planning and coordinating the nation-wide responses using the *Emergency Management Act* (Federal Legislation) legal framework:

- Public Health Agency of Canada – Centre for Emergency Preparedness and Response: has responsibility for health emergency management at the federal level. This includes both a national emergency stockpile and a national response team, which are requested through the provincial ministry. Refer to www.phac-aspc.ca for further details.

The Government of Ontario is responsible for planning and coordinating provincial-wide responses using the *Emergency Management and Civil Protection Act* framework:

- Emergency Management Ontario (EMO) is responsible for the overall preparedness and coordination of emergency management for all areas of critical infrastructure except health (e.g., power, telecommunications).
- Emergency Management Unit (EMU) was created by the Ministry of Health and Long-Term Care (MOHLTC) to plan, organize, manage and coordinate provincial responses to emergencies that affect health (e.g., pandemic influenza). It funds and supports the Emergency Medical Assistance Team (EMAT), which in turn supports health emergency responses. Refer to *www.health.gov.on.ca* for further information about EMU activities.
- There is no formal role in emergency response for the Local Health Integration Networks (LHIN), however the MOHLTC will be evaluating their role further.

Municipal government and Public Health authorities are responsible for coordinating local responses that they have been assigned to:

- Municipality must have an emergency management program to address priority hazards (e.g., power, telecommunications).
- Public Health Units support planning and response efforts that impact the public health of the community (e.g., pandemic influenza).

OHA: Develop strategies and tools to support hospital preparedness efforts, and support hospitals in emergency responses by serving as a conduit for communications between the provincial and hospital level.

Hospitals are required to have emergency response plans that address the risk of disasters and emergencies.

The Community Emergency Preparedness Committee

Every community is unique, with differing structures, resources, networks, and capabilities, so emergency preparedness and response at the community level is not a one-size-fits-all approach. For instance, depending on the emergency, the response could, for the most part, include the local public health unit, the municipality boundaries, and the LHIN boundary. Hospitals may face some difficulty, in that they may provide care for patients in more than one public health unit or municipality or LHIN. Driving factors for developing emergency preparedness programs and plans in the community are noted in Table 3.1.

Putting it all together: The Community Emergency Preparedness Committee

Taking a community-based approach to developing a Community Emergency Preparedness Committee can ensure that local plans are integrated both vertically (e.g., national and provincial) and horizontally (e.g., health and critical infrastructure). What is more, there are many issues that are critical to effective implementation of hospital emergency management plans, and participating on the committee at the community level can ensure that these issues are addressed in a collaborative manner to support the prioritization of planning, and coordination and efficiency during the response stage (see Figure 3.2).

Table 3.1: Roles and Responsibilities for local government for emergency preparedness and response.[10]

Local Government Pandemic Planning		
Planning	**Health Planning**	**Critical Infrastructure Planning**
Who	**Local Public Health Units**	**Municipalities**
Legislation	*The Health Protection and Promotion Act* outlines the responsibilities of the public health unit, which include protecting public health and preventing, managing, and controlling the spread of communicable diseases.	The *Emergency Management and Civil Protection Act* states that every municipality shall develop and implement an emergency management program. This must consist of: • An emergency plan • Training programs and exercises • Public education • Any other element required by regulation

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10 Ontario Health Plan for an Influenza Pandemic, MOHLTC
   hrrp://www.health.goc.ca

Figure 3.2 : Some key issues that should be addressed through collaboration at the Community Emergency Prepardness Committee.
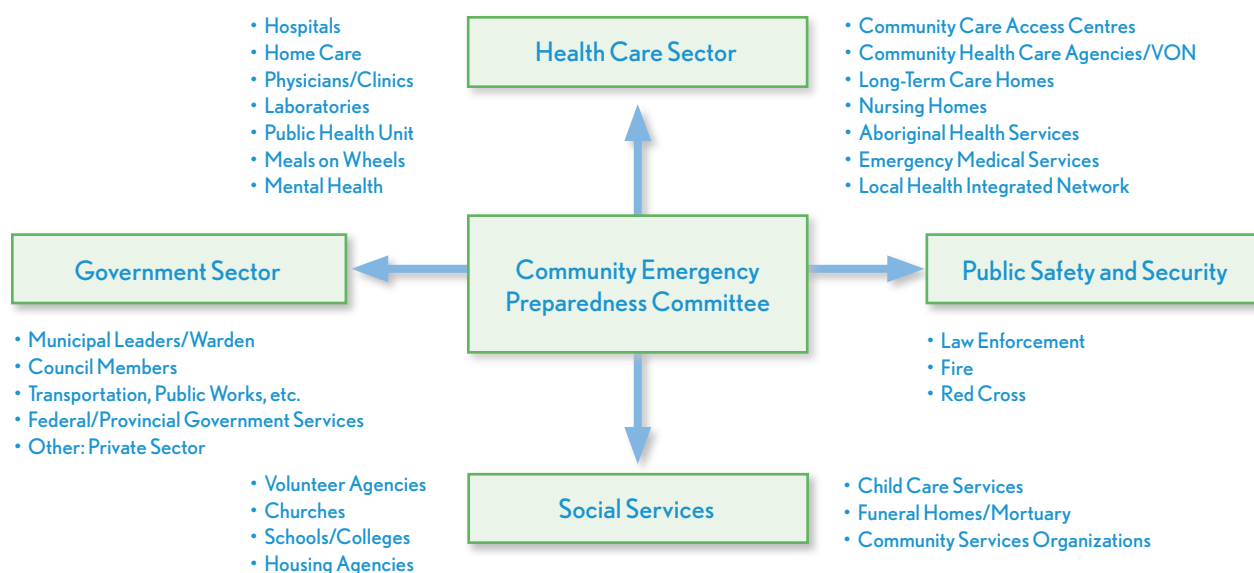

For some communities, emergency preparedness and response is focused on the site of the incident. The Community Emergency Preparedness Committee may not think to incorporate health care into the preparedness efforts and work solely with the "first responders", or groups that arrive at the scene of the incident. This may occur for a number of reasons: they may believe that health care is outside of the jurisdiction since it is a provincial matter or assume that the hospital is resilient enough to handle and respond to emergencies once the patients are dropped off.

It is important that the hospital reach out and develop these linkages to ensure coordinated preparedness, response, and recovery phases to emergencies. Further, it is not possible for the hospital to consider all elements of the response to an emergency, and many emergency responses consider more than one organization (e.g., police, fire, municipality), therefore participating on the Community Emergency Preparedness Committee is essential to consider those preparedness elements which cross multiple organizations.

What does this mean for the hospital?

In the local community, preparedness and response will, for the most part, consider local public health unit or municipal boundaries, but resources will consider the LHIN boundary. Hospitals may face some difficulty in that the community players, including emergency medical services, residential care, home and community support, pharmacies, and laboratories, may not follow specific geographic boundaries or have clear roles and responsibilities during emergencies.

Representation on the Community Emergency Preparedness Committee includes:

What You Need to Do

Establish ownership and commitment of the hospital emergency management program

For those hospitals that are just starting out the following approach is recommended:

1. Confirm that someone within senior management has accountability and ownership of emergency preparedness.

This step is a key success factor in the long-term sustainability of the program because it will ensure that the program is linked to the strategic objectives of the hospital and necessary resources can be accessed. Both the CEO and senior management lead should endorse their support of a hospital emergency management program.

2. Designate an emergency preparedness program lead.

The lead will work with the senior management and support the development of the program, keeping it current. In smaller facilities, this person may have additional functions in the hospital. The program lead should be knowledgeable about emergency management processes, legislation and standards, and will play a role in supporting the Emergency Preparedness Committee, and ensuring that specific policies, plans, and procedures are developed on time with relevant experts being involved.

3. Develop an organizational policy about emergency management.

The policy statement will reflect the hospital's commitment to supporting an emergency management program that will assist the hospital in identifying, analyzing, and controlling risks, to prepare and better respond to emergencies, and to ensure the safety and protection of staff, patients, and visitors.

4. Outline the program goals and objectives.

Clearly outlining the program goals and objectives can assist with developing policies, plans, and procedures. It can also assist with program evaluation allowing the hospital to link performance measures and indicators to specific goals. Examples include:

- Ensure the safety and protection of staff, patients, and visitors by establishing specific guidelines to follow in emergencies.

- Establish a culture that supports emergency management in the hospital.

- Develop and maintain emergency management plans describing the process of responding to emergencies and where possible, preventing emergencies.

5. Confirm resources for the program.

Develop and secure senior management approval for a budget to support the operational elements of the emergency management program, which includes the program lead's salary and benefits, office equipment and supplies, expenditures for supporting an hospital emergency preparedness committee, and continuing education and resources to hold exercises and drills. As specific hazards are prioritized and plans are developed, there will be additional resources required, some may be pre-planned and come from the program budget, however, other expenses, such as developing stockpiles, will come from the broader hospital budget.

6. Identify internal and external stakeholders.

Develop a list of key individuals in the hospital and in the community who could provide assistance in the development and implementation of program elements and specific plans related to it. Internally these people would include staff from infection prevention and control, occupational health and safety, security, the emergency department, clinical, materials management, environmental services, finance, and communications. Externally these people would include police, fire, Emergency Medical Services (EMS), the public health unit, the LHINs, the municipality. Ensure that you are connected to the OHA and on relevant contact lists. Refer to the Toolkit Appendix Tools and Templates section for the Contact List Template.

7. Develop a Hospital Emergency Preparedness Committee.

The Hospital Emergency Preparedness Committee can provide the expertise required to develop specific plans and procedures, to recommend specific actions, and the buy-in to approve and promote what the hospital will do during an emergency. This may be a separate committee or become the mandate of one that already exists in the hospital, if the membership includes the types of skills required for emergency preparedness. Members of this committee may be internal and external to the hospital, and may participate in the response. This committee is responsible for:[11]

a) Reviewing and approving the annual goals of the program.

b) Identifying priorities for emergency response planning and assisting with their development.

c) Bringing issues of compliance with relevant legislation to the attention of senior administration.

d) Advocating for resources necessary to accomplish the goals of the program.

e) Monitoring patient safety/risk management/quality assurance through evaluation.

Refer to the Toolkit Appendix Tools and Templates section for a draft Committee Terms of Reference, meeting minutes template, and Hospital Emergency Preparedness Committee Contact List template.

8. Participate on the Community Emergency Preparedness Committee.

The effectiveness of hospital staff response is greatly enhanced by the pre-event integration of the hospital into the community emergency preparedness and response planning process.[12] Ensuring that the hospital is well integrated with community stakeholders at the strategic and operational levels can help to ensure that common framework is used for prioritizing hazards and planning, and that the hospital is aware of assumptions about its roles and responsibilities.[13]

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11 The Australian Journal of Emergency Management Vol 20, No. 2, May 2005 – Mirco, C. and Notaras, L

12 (Integrating Hospitals into Community Emergency Preparedness Planning; braun, B. et al., Annals of Internal Medicine 2006; 144: 799-811

13 Strategic planning for emergency managers, R. Sturgis; journal of emergency management Vol 5, No. 2, march/april 2007, 41-48)

Resources

Background; Roles, Responsibilities, and Framework
for Decision-Making Ontario Health
Pandemic Influenza Plan
http://www.health.gov.on.ca

Braun, B. et. Al (2006) Integrating Hospitals into
Community Emergency Preparedness
Planning. Annals of Internal Medicine.
Vol 144: 799-811

Emergency Management Unit
http://www.health.gov.on.ca

Emergency Programs, Services, and Support;
Emergency Management Unit, MOHLTC.
*http://www.health.gov.on.ca/english/providers/
programs/emu/epss_mn.html*

Health Canada *http://www.hc-sc.gc.ca*

Integrating Hospitals into Community Emergency
Preparedness Planning; braun, B. et al., Annals
of Internal Medicine 2006; 144: 799-811

Legislative Issues & Analysis – Backgrounders,
Analysis and Submissions
http://www.oha.com

Ministry of Health and Long-Term Care (MOHLTC)
Emergency Response Plan
(http://www.health.gov.on.ca)

OHA Guide to Good Governance *http://www.oha.com*

Seeman, N.; Baker, R. and Brown, A. (2008) Emergency
Planning in Ontario's Acute Care Hospitals:
A Survey of Board Chairs – Healthcare
Policy vol 3, No. 3

Service Ontario, e-laws (Collection of free legislation
and regulations)
http://www.e-laws.gov.on.ca

Sturgis R.; Strategic planning for emergency managers,
journal of emergency management Vol 5,
No. 2, march/april 2007, 41-48

The Australian Journal of Emergency Management
Vol 20, No. 2, May 2005 – Mirco, C.
and Notaras, L

Checklist

Provincial Legislation

☐ Understand the legal and regulatory framework under which the hospital will operate during an emergency.

☐ Consider the impact of legislation on the hospital pandemic plan and response. (Refer to the Toolkit Appendix Tools and Templates.)

Roles and Responsibilities

☐ Understand the roles and responsibilities for planning and response to emergencies, and where the hospital fits in.

☐ Ensure that a member of the senior leadership team has overall responsibility for the hospital emergency management program.

☐ Understand roles and responsibilities as emergency preparedness lead to help coordinate the hospital emergency management program and develop policies, plans, and procedures.

☐ Ensure the hospital has an organizational policy about emergency management and clear program goals and objectives. This is reviewed on an annual basis.

☐ Ensure the emergency management program has a dedicated budget.

☐ Ensure the hospital has an active emergency management committee that meets regularly.

☐ Ensure that the hospital is well connected to community stakeholders at both strategic and operational levels.

Chapter 4:
Hazard Identification, Risk Assessment and Analyzing Capabilities

Chapter 4: Hazard Identification, Risk Assessment and Analyzing Capabilities

Hospitals may be highly susceptible to hazardous events. Hospitals are also a key part of the response to any emergency in their community that has health implications, so the unique climatic, geographic, transportation, and industrial vulnerabilities of the community where the hospital resides can result in emergencies that impact operations.

Hospitals also contain a complex combination of utilities, surgical and diagnostic equipment, and hazardous materials, along with ever-changing visitors and patients with various conditions. As such, supply chain issues have an immediate impact and the hospital itself has the potential to be the site of a number of hazardous events.[14]

A Hazard Identification and Risk Assessment (HIRA) can allow a facility to better understand its environment and plan for the unexpected, allowing it to focus on events with the greatest likelihood of occurrence and impact to develop strategies.

> The purpose of this chapter is to define a HIRA and outline the methodology of completing one. Upon completion of this chapter you should understand:
>
> - How to complete a HIRA for your hospital to measure the probability and potential impact of each hazard.
> - How the emergency management process links to the HIRA and strategies to manage risk.
> - How the provincial and community HIRAs link to the hospital HIRA.

Guiding Principles:

- Risk is not universal and evenly distributed.

- Each facility must have a HIRA, and where a hospital has multiple sites consideration should be given to hazards unique to each of the sites.

- The HIRA will be reviewed, and updated where required, annually.

What You Need to Know

What is a HIRA?

A HIRA is "a systematic process of identifying potential hazards that could affect the need for the organization's services or its ability to provide services, and then quantifying and ranking the risk based upon probability and potential impact, to prioritize planning".[15] Completing a HIRA shifts the approach from just looking at the emergencies that result from a hazard, to really understanding the types and causes of risk, and ways to mitigate it and develop appropriate strategies to manage them.[16]

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14 Sternberg E. Planning for resilience in Hospital Internal Disaster; Prehospital Disaster Medicine 2003; 18(4):291-300

15 Emergency Management Notebook: A Tool for Emergency Mangement Practioners (2006); Emergency Mangement Ontario.
16 Guidelines for Provincial Emergency Management Programs in Ontario. Emergency Management Ontario. Published 2004.

What are hazards?

Hazards may be natural or human-caused, being either accidental or deliberate in nature. In identifying hazards, thought should be given to what could occur both within the facility and in the community. Hazards generally faced by hospitals fall into one of three categories:

1. External events that generate surge in demand.

2. External events that interrupt supply chains.

3. Internal events that disrupt normal business.

What is a risk assessment?

Risk assessment is defined as the continuous, proactive, and systematic process to understand, assess harms and benefits, and manage and communicate hazards. Risk involves three key issues: frequency of disruption (how often); consequences (how large), and perception (how loss is viewed by stakeholders).[17] There are seven types of risk exposures that may be experienced by hospitals, either independently or simultaneously:

1. Loss of Life or Negative Impact to Health and Safety

2. Degradation of Services

3. Loss of Infrastructure

4. Financial Loss

5. Damage to Reputation

6. Compliance with Laws

7. Harm to the Environment

What are provincial and local governments doing?

Emergency Management Ontario has developed a provincial HIRA looking at those hazards that pose a threat to the critical infrastructure in the province and developed response plans. Specific guidance is provided to municipalities and the public for nuclear, severe weather, war and international conflict, and a coordination plan during an influenza pandemic. Municipalities are required to develop a HIRA as part of the emergency management program, considering hazards specific to the local area.

The Emergency Management Unit (EMU), a unit developed by the Ministry of Health and Long-Term Care (MOHLTC) to plan and coordinate emergencies related to health, has also developed a provincial HIRA looking at health hazards. Specific guidance has been provided around Ontario Health Plan for an Influenza Pandemic to the public health units, hospitals and health system.[18]

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17 Canadian Standards Association (CSA) Risk Management: Guideline for Decision Makers CAN - CSA - Q50 - 97 *http://www.oha.com*

18 Ontario Health Plan for an Influenza Pandemic MOHLTC *http://www.health.gov.on.ca*; note: the Ministry of Labour is looking to ensure that employers have emergency response plans in plan. While they do not look at the whole plan, they look at the parts that impact employee safety.

What You Need to Do

Conduct a HIRA for the hospital

1. Rationale: Why is it necessary?

It is important to understand the environment in which the hospital is operating and the types of threats that could present themselves, impacting the normal operations of the facility. Conducting a HIRA provides an opportunity to dialogue with the community and better understand and set priorities for mitigation, preparedness, and response.

2. Goals and objectives.

These can assist with performance and program evaluation components and could include:

- Keeping an updated list of hazards and identify mitigation strategies.

- Reviewing and updating the hospital HIRA on an annual basis, or following emergencies to ensure that the assessment is valid.

3. Designate a lead.

The program lead often directs the completion of the HIRA. This person will work with the emergency preparedness committee, potentially the hospital Joint Health and Safety Committee (JHSC), and a variety of other individuals external to the organization, to obtain data. Upon completion of the HIRA, this person will also liaise with senior management for sign-off and moving forward on priorities identified and next steps outlined to mitigate and prepare, since there is a budget component associated with completing the HIRA.

4. Approach: The following process is a suggested model to complete a HIRA.

All models are a series of ranking exercises that will allow for comparison between different types of hazards and risk. Depending on the complexity of the facility, a more rigorous HIRA model may be chosen. The following model was developed and published by the Centre for Excellence in Emergency Preparedness (CEEP). Working with the community's emergency coordinator can facilitate access to municipal data, however, hospitals are cautioned not to rely solely on the municipality HIRA, since it will not consider those hazards internal to the hospital. Refer to the Toolkit Appendix Tools and Templates Section for other examples of HIRA models.

I. **Create a list of hazards**[19] –The list can build an understanding of the types of risks your facility is subject to, including raising awareness about types of external hazards, such as industry in the community (transportation lines, mines, chemical plants, etc.), which can be obtained from municipalities. Refer to the Toolkit Appendix Tools and Template section for examples of hazards template.

II. **Conduct research and rank probability** – Look at historical data to determine if it has happened before, what time has elapsed since the last occurrence, and ascertain the likelihood of the event recurring. The following scale is utilized (see Table 4.1).

    A. Highly likely - nearly 100% chance in next year

    B. Likely - between 10% to100% chance in next year, or at least one chance in next 10 years

    C. Possible - between 1% and 10% chance in next year or at least one chance in next 100 years

    D. Unlikely/ Improbable – less than 1% chance in next 100 years

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19 Note the words risk, hazard and threat are often used interchangeably. The preferred term is risk or threat not hazard for events, however hazard is used to keep consistency with terminology used by EMO and EMU.

Table 4.1 Probability rating of event occurring at a given location in the next year.

Probability Rating	Description	Detail
A	Highly Likely	nearly 100% probability in next year
B	Likely	between 10% and 100% probability in next year, or at least one chance in 10 years
C	Possible	between 1% and 10% probability in next year, or at least one chance in next 100 years
D	Unlikely	less than 1% probability in next 100 years

III. Conduct research and rank impact – Look at historical data to consider the impact of the hazard. In addition to incident uncertainty (when it will occur), other forms of certainty are such as sequential uncertainty (chains), informational uncertainty, consequential uncertainty, cascade uncertainty, organizational uncertainty and background uncertainty.[20] For the purpose of this HIRA, the impact should be assessed along three aspects of how the hazard being considered will affect the ability of the provider to deliver an appropriate level of service: the human impact, the property impact and the business impact. Additional aspects may be considered, however the complexity of the HIRA tool increases.

When measuring and ranking risks, ask the following questions:

- Does the hazard pose a threat to the health and safety of staff, patients, or visitors?

- Will it result in property damage, and if so, what is the extent?

- What types of system failure can be expected and for how long?

- To what extent is an financial loss expected and how much?

- Will the hospitals' reputation be threatened?

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20 Sternberg, E. Planning for resilience in Hospital Internal Disaster
    prehospital disaster medicine 2003; 18(4):291-300

The rating given for human impact should consider whether the hazard:

1. Is unlikely to cause injury, illness or death in staff or patients.

2. Has a low probability of injury, illness or death for staff or patients.

3. Has a high probability of injury or illness for staff or patients, with a low probability of death.

4. Has a high probability of death for staff or patients.

The rating given for property impact should consider whether the hazard:

1. Is unlikely to cause physical plant or equipment damage requiring any replacement costs or recovery time.

2. Will result in minor physical plant or equipment damage requiring some replacement costs or recovery time.

3. Will result in moderate physical plant or equipment damage requiring moderate replacement costs or recovery time.

4. Will result in extensive physical plant or equipment damage with high replacement costs and recovery time.

The rating given for business impact should consider whether the hazard:

1. Is unlikely to cause service interruption or damage to public image of the institution.

2. Will result in minor or limited service interruption or damage to public image.

3. Will result in significant/widespread service interruption.

4. Will mean the hospital unable to provide services.

Centre for Excellence in Emergency Preparedness

IV. Score the risk and develop an assumptions library – Scoring is a difficult task since the risk depends on a combination of hazard frequency, intensity, and facility vulnerability, and data on all three is rarely available.[21] For the purposes of this model, the probability and impact scores for each hazard are multiplied to determine a total (see Table 4.2). It is important to carefully document team decisions about perceptions of risk, which can be done using an assumptions library. The library will help with future risk management processes, and ensure organizational memory when the HIRA needs to be updated. Refer to the Toolkit Appendix Tools and Templates Section for the Assumptions Library template.

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21 Sternberg, E. Planning for resilience in Hospital Internal Disaster prehospital disaster medicine 2003; 18(4):291-300

Table 4.2: The overall impact rating is the sum of the total of the three impact factors for each hazard.

4	Marginal	Normal level of functioning or increased level of service required
5-7	Highly Likely	Facility can provide a normal level of service with assistance from within region or within local community; or, facility can provide a reduced level of service with normal resources
8-10	Likely	Facility can provide a normal level of services with assistance from outside the local community or region; or , facility can provide a minimal level of service with normal resources
11-12	Possible	Facility cannot provide services without extensive assistance from provincial or federal resources

V. Ranking Low to High Priority – The risk score obtained is mapped onto the risk scale, which will provide a low-low to high-high rank (see Table 4.3). Refer to the Toolkit Appendix Tools and Templates Section for an example of a completed HIRA.

Table 4.3: Combining the impact rating with the probability rating determines the risk.

Impact Rating / Probability Rating	A Highly Likely	B Likely	C Possible	D Unlikely
11 - 12: Catastrophic	A11 - A12	B11 - B12	C11 - C12	D11 - D12
8 - 10: Critical	A8 - A10	B8 - B10	C8 - C10	D8 - D10
5 - 7: Serious	A5 - A7	B5 - B7	C5 - C7	D5 - D7
4: Marginal	A4	B4	C4	D4

■ High　　■ Moderate　　■ Low　　■ Very Low

4. Set priorities and consider risk management strategies.

The ranking scale allows the hospital to prioritize and manage risk effectively. A good emergency program must ensure that the four pillars of emergency management are addressed and embedded in planning.

There are four options that could be considered by the hospital: elimination or avoidance (conscious choice not to participate in something that could generate the hazard), mitigation (activities that will prevent the occurrence of the event, minimizing if it does occur), transference (to another location or entity), or acceptance, where the last will be considered under preparedness activities. Refer to the Appendix Tools and Templates section for the Risk Management Strategy Matrix.

5. Implement prevention and mitigation activities.

It is important to look at hazards ranked fairly high on the chart, and see if there are opportunities to implement preventative/mitigation activities or create a series of measures through planning to decrease risk to the hospital. These include activities done to prevent the creation of the hazard, change the nature or size of it, separate the hazard from that which it might affect, or modify basic characteristics by implementing a series of controls. Chosen strategies are broadly classified as structural or non-structural, and may include the use of standards, capital improvements, the removal of structures at risk, developing redundancy of skills required to respond and critical systems and equipment, confirming hazard warning processes. Generally a cost-benefit analysis is completed, weighing the costs of both the losses and the needed action required for mitigation against the likelihood of the disaster.

The input of the Joint Health and Safety Committee (JHSC) can be solicited to help identify recommendations for determining threats in the workplace and specifically linking to the hierarchy of controls (i.e., substitution, engineering, administrative policies).[22] The finalized HIRA must be presented to the JHSC. Ensure collaboration and connection to the JHSC.

6. Consider preparedness activities.

For hazards where risk cannot be minimized through preventative/mitigation activities, preparedness activities seek to build capacity and provide capabilities by which the hospital can manage crisis and prevent it from turning into a disaster.[23] Key features of preparedness include using a standard response framework, processes for notification of emergencies, collaboration with the community, and policies, plans, training, and exercises.[24] Later chapters will address preparedness activities in detail.

7. Assess capabilities and complete a gap analysis.

Before moving on to planning, it may be helpful to complete a capabilities assessment, which can help to identify those events for which the hospital is not prepared, and for those events where a plan may be in place but further steps are required. Refer to the chapter resource section for the link to the Centre for Excellence in Emergency Preparedness (CEEP) Readiness Checklist and other checklists.

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22 The JHSC does not prevent hazards, it identifies hazards and make recommendations to senior management for action (i.e., the hazard exists and is an immediate risk to a worker's health).

23 Sternberg E. Planning for resilience in Hospital Internal Disaster prehospital disaster medicine 2003; 18(4):291-300

24 Emergency Management Doctrine for Ontario – EMO Published August 17,2005

8. Evaluation, feedback and updating the HIRA.

This is important because new hazards may arise or the level of risk may change, requiring a different priority level to be assigned. The hospital JHSC could assist with providing feedback on the HIRA and identifying new hazards. It is important for the Emergency Preparedness Committee to prioritize and update the HIRA annually, at minimum.

Key questions to consider through the evaluative process include: Are the risks lower than initially estimated? Have stakeholder perceptions changed? Are there new issues that have developed? Has the scope changed? Is the level of uncertainty considered acceptable?

After an event, the facility Emergency Preparedness Committee should debrief and investigate what caused the event and why it happened (e.g., identify immediate causal and contributing factors, organizational factors that may exacerbate the event/hazard) to update mitigation and preparedness strategies. It is also important to review the risk scores to ensure it compares with the realities faced by the hospital.

Resources

Atmospheric Hazards, Environment Canada
http://www.ontario.hazards.ca

Analyze Capabilities and Hazards – FEMA
http://www.fema.gov/business/guide/section1b.shtm

Canadian Standards Association (CSA) Risk Management: Guideline for Decision Makers CAN - CSA - Q50 - 97 *http://www.oha.com*

Centre for Excellence in Emergency Preparedness
http://www.ceep.ca/conference/tools/ Hazard_Analysis_Tool.pdf

Emergency management Workbook: A Tool for Emergency Management Practitioners (February 2006); Emergency Management Ontario

Farmer, J. Are you Prepared? Hospital Emergency Management Guidebook. Association for the Advancement of Medical Instrumentation

Guidelines for Provincial Emergency Management Programs in Ontario. Emergency Management Ontario. Published 2004
http://www.emergencymanagementontario.ca

Ontario Health Plan for an Influenza Pandemic - Occupational Health and Safety Chapter Hierarchy of Controls; MOHLTC
http://www.health.gov.on.ca

Medical Centre Hazard and Vulnerability Analysis; Kaiser Foundation Health Plan, Inc. 2001

State of Maine
http://www.maine.gov/tools/whatsnew/attach. php?id=23685&an=3

Sternberg E. Planning for resilience in Hospital Internal Disaster; Prehospital Disaster Medicine 2003; 18(4):291-300

University of Western Australia
http://www.safety.uwa.edu.au/forms/ risk_management_matrix

Checklist

☐ Designate a lead to work with the Emergency Preparedness Committee and others people to complete a HIRA for the hospital.

☐ Obtain and review copies of the provincial and municipal HIRAs.

☐ Confirm a HIRA model that will be used for the hospital and build familiarity about it.

☐ Create a list of hazards, internal and external to the organization

☐ Conduct research and rank the probability and impact of each hazard, to determine the risk. Complete an assumptions library for each hazard.

☐ Prioritize hazards and complete the risk management strategy matrix, which requires that consideration is given to prevention, mitigation, and preparedness activities.

☐ Present the finalized HIRA to the Joint Health and Safety Committee

☐ Present the finalized HIRA to the Hospital Emergency Preparedness Committee. Work through the Committee to further prioritize mitigation strategies and obtain necessary resources. The approval for resources may go to the level of the Senior Leadership or Board.

☐ Assess the hospitals capabilities using a checklist.

☐ Ensure that the HIRA is reviewed on an annual basis, and updated accordingly. The HIRA may also need to reviewed and updated.

Chapter 5:
Implement the Incident Management System Framework

Chapter 5: Implement the Incident Management System Framework

The speed with which an organization can return to normal operations after an emergency occurs is an indicator of the organization's overall ability to manage an emergency. Where the Hazard Identification and Risk Assessment (HIRA) is the chosen framework for identifying priorities and what the hospital needs to plan for, the Incident Management System (IMS) is the chosen framework on how to prepare and respond when emergencies occur.

The purpose of this chapter is to explain how the IMS is incorporated within the overall emergency management program. Upon completion of this chapter you should understand:

- The terminology consistent with the IMS framework.
- How to integrate IMS into the hospital's emergency operations plans.
- How IMS is implemented during the response phase.

Guiding Principles:

- All hospitals have formally adopted the IMS.

- IMS is a valuable tool to organize any response, including internal ones.

- For larger emergencies, no single organization has the ability to respond to all aspects of emergency management. Coordination between multiple agencies is required using a common response framework.

What You Need to Know

What is the IMS?

The IMS is a method of command and control that provides a means to coordinate parts of one or many organizations towards the goal of responding to an incident and protecting life, property, and the environment. It allows for rapid decision making, while using available resources in the most effective and efficient manner when responding to an emergency.

IMS is predicated on an understanding that in every incident there are certain functions that must be carried out, regardless of the type of incident or the number of people who are available or involved in the response. Therefore, it can be defined as a standardized approach to emergency management encompassing personnel, facilities, equipment, procedures, and communications, operating within a common organizational structure.[25]

History of the IMS

In the early 1970s, Southern California experienced several devastating wild land fires. The overall cost and loss associated with these fires totalled $18 million per day and the response demonstrated major systemic weaknesses, including use of non-standardized terminology, a response structure that lacked the capability to expand/contract, un-integrated communication, and no consolidated action plans.[26]

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25   Note: the Ontario Hospital Association offers the course IMS for health care facilities. For more information visit *www.oha.com*.

26   Federal Emergency Management Agency (FEMA's) National Incident Management System (NIMS)

This multi-jurisdictional disaster was the impetus for the federally funded project called Fire Resources of Southern California Organized for Potential Emergencies (FIRESCOPE) and development of an improved interagency incident management system known as the Incident Command System (ICS).[27] This was adopted by Federal Emergency Management Agency (FEMA) and the Department of Homeland Security set about developing a framework for all agencies to use to respond to all major incidents. It came to be called the National Incident Management System (NIMS).[28]

In Canada, the principles of the ICS were accepted with slight modifications being made to matters of language (e.g., 'manager' instead of 'commander') and to the consideration of multi-agency responses. The term ICS was also changed to IMS. The Canadian Standards Association (CSA) Canadian Emergency Management and Business Continuity Program Standard (CSA Z1600) requires that all organizations use the IMS framework. Refer to the Toolkit Appendix Tools and Templates for the table that links the CSA Z1600 to the six elements of a Hospital Emergency Management Program.

Key Features of the IMS model: Why use it?

IMS is designed to ensure that those in charge establish command and control, safety, communications, coordination of resources, and supply chain management in an emergency response quickly and effectively. It applies to any organization, and incorporates the four phases of emergency management. Key features include:

1. **Common language** – establishes names/titles for positions, terminology for places;

2. **Recognized chain of command** – clarifies the reporting relationships for all staff involved, which is critical for intra-agency cooperation;

3. **Manageable span of control** – keeps the number of people reporting to a single person to between three and seven with the ideal being five;

4. **Modularity and scalability** – all power and authority initially rests with the Incident Manager and then can be delegated to others and roles may be enacted as the emergency dictates;

5. **Unified command** – where multiple agencies respond, this refers to the appointment of one Incident Manager to which all agencies report. If there are multiple Incident Managers, it will show how all work together with defined roles and responsibilities;

6. **Consolidated action plans** – outlines clear goals, objectives and timelines;

7. **Management by objectives** – done through a business cycle with ongoing monitoring;

8. **Centralized communications** – the Incident Manager is the hub with all relevant information going through this role.

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27 Federal Emergency Management Agency (FEMA's) National Incident Management System (NIMS)

28 Federal Emergency Management Agency (FEMA's) National Incident Management System (NIMS)

Figure 5.1: The basic Incident Management System Organizational Chart
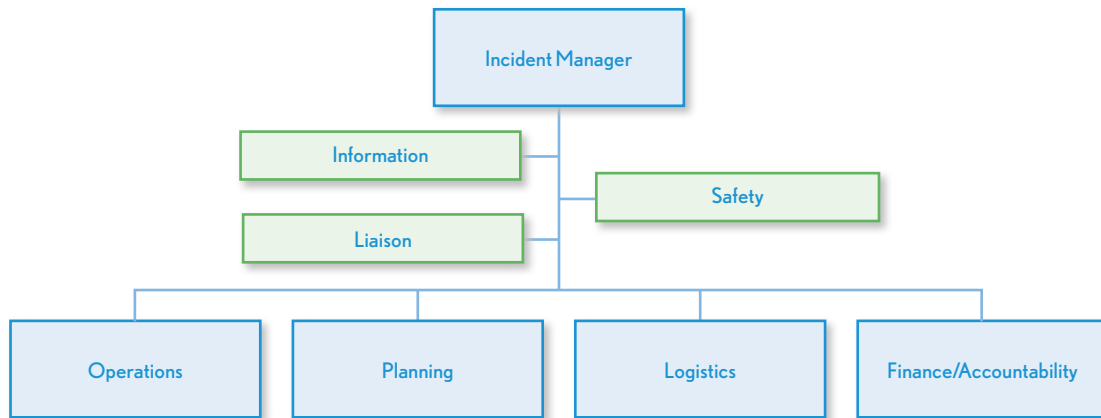
The IMS Organizational Chart

The above diagram depicts the command and key functional roles with further description provided on defining the relationship between them. Common names and titles are used to describe the key positions, with a recognized chain of command from the Incident Manager to Chiefs and Officers, of which, if fully activated, a maximum of seven functional roles are reporting to the Incident Manager (see Figure 5.1).

Incident Manager: Responsible for the development of strategy for the response to an incident, and for the setting of objectives in order to accomplish that strategy. Functional roles reporting to the Incident Manager are responsible for taking the strategy and developing it into tactics.

Safety Officer: Responsible for ensuring the safety of staff and patients and has responsibility for overseeing work areas to identify and correct any potential safety issues, make recommendations for changes or to immediately stop work believed to be unsafe.

Liaison Officer: Acts as conduit for relevant information between the organization and other agencies/stakeholders. Also attends meetings to gather relevant information.

Information Officer: Responsible for communications that are external (media) and internal (staff, patients, visitors) and will ensure all material needed is developed.

Operations Chief: Responsible for operating the core business functions of not only the emergency response but also for the service delivery of daily operations, ensuring that all work areas have staff and resources.

Planning Chief: Responsible for gathering all relevant information for short-term and long-term planning, including the pre-defined plans for responding to the incident, situation information, then evaluating/analyzing the data for decision-makers, and developing incident action plans.

Logistics Chief: Responsible for delivering required resources, both material and human to where they are required to effectively manage an emergency.

Finance/Administration Chief: Responsible for documentation, which does not only include the tracking costs, time, and compensation but also decision logs and resource usage. This will assist in the event of audits, legal action against the hospital, or submission of claims to the government for potential reimbursement of expenses.

Use of IMS in Ontario: Who is using it? How will it be used?

In 2007, Emergency Management Ontario (EMO) took the lead role in creating a doctrine that would standardize IMS for Ontario. This standardization was meant to provide an efficacious, flexible, and consistent structure and process to manage incidents by all levels of government, emergency response organizations, communities, ministries, non-government organizations (NGOs), and the private sector.[29]

The CSA Z1600 standard provides further clarity regarding what organizations shall and should do. Having a similar response framework can assist in developing system-wide preparedness efforts with clarity on roles and responsibilities for response through a Community Emergency Preparedness Committee. It can also assist with dealing with incidents of varying scales and scopes, allowing for command of the incident to rest with the most appropriate person, organization, or level.

For the most part, the majority of incidents will result in emergencies that are contained within the organization and require an organizational-level response (e.g., water leakage). A regional response may be required to respond to those incidents that impact the whole or a large part of a community and require the coordination and allocation of resources at the regional level (e.g., train derailment). Similarly, a provincial or national response generally occurs for incidents of a large scale and magnitude and that requires coordination and allocation of resources at a larger level (e.g., outbreak of pandemic influenza).

How do the emergency structures connect?

In the event of a provincial health emergency, like an influenza pandemic, the Ministry of Health and Long-Term Care (MOHLTC) will be the lead agency coordinating the response. It will use the IMS structure to activate the Ministry Emergency Operations Centre (MEOC). Public health units will communicate with the MEOC. Municipalities will communicate with the Provincial Emergency Operations Centre (PEOC), which will be activated to support the health response and maintain critical infrastructure.[30] The hospital EOC or Command Centre will liaise with the municipality (refer to Figure 5.2).

### Who is the Community Incident Manager?

In many large communities, the local Medical Officer of Health (MOH) is looked to as the Incident Manager when responding to health issues, and the Municipal Emergency Coordinator for critical infrastructure issues that require a community response. For instance, during a pandemic influenza the local MOH may coordinate the response locally based upon directives from the Chief MOH.

In smaller communities, while there may be a Municipal Emergency Coordinator for critical infrastructure emergencies, the local MOH might cover more than one area and may not be the Incident Manager for health emergencies. Therefore, it is important to determine how the health response will be coordinated.

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29 At the time of publication the IMS Doctrine for Ontario was not published. Please visit *http://www.emergencymanagementontario.ca* for further details.

30 Ontario Health Plan for an Influenza Pandemic (2008) and MOHLTC Emergency Response Plan (2007); *http://www.health.gov.on.ca*

Figure 5.2: Provincial, Local, and Hospital Emergency Response structure for provincial health emergencies.
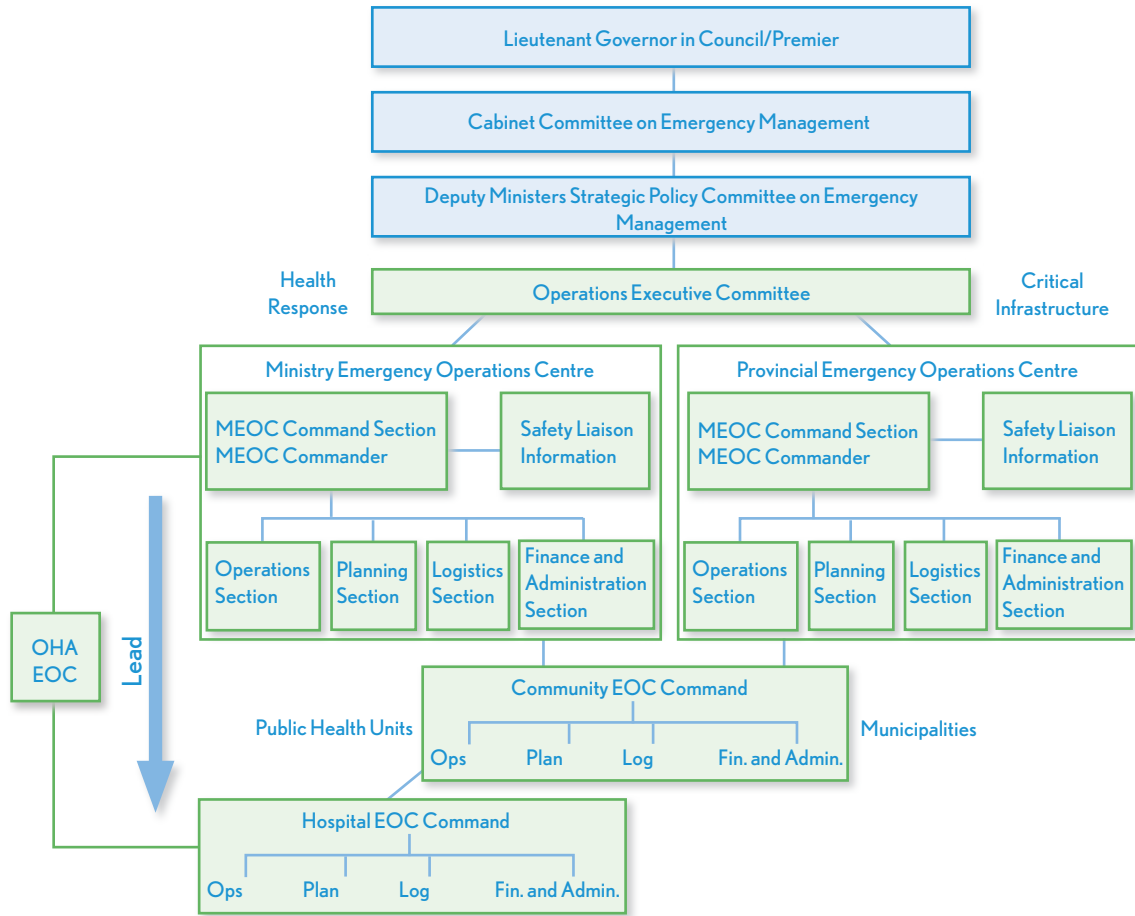
What does this mean to the hospital?

In the event of a localized event, such as a train derailment with a hazardous chemical spill, first responders, such as fire, police and Emergency Medical Services, will arrive at the incident scene and respond. The situation is assessed and steps taken include those to save human life, property, and minimize environmental impact. While the hospital is not part of this initial response, it should be included in the communication loop so it is informed of any casualties that may be brought to the emergency department. In having the hospital participate on the Community Emergency Preparedness Committee, this can ensure that the hospital perspective is heard and formal plans and procedures are developed collaboratively, including those for communication.

Use of IMS in Hospitals[31]

The IMS framework can be used in hospitals to prepare and respond to emergencies. By considering functions and response procedures that more closely resemble the hospital organizational structure, it is easier to apply it. The top-tier of the hospital IMS framework is outlined below, building on the model shown above, and there are several additional roles in the expanded IMS organizational chart (see Figure 5.3). How each organization decides to organize and activate the lower tier of the chart will be its decision, based on unique characteristics of each hospital and the nature of the incident. Refer to the Toolkit Appendix Tools and Templates section for the expanded IMS organizational chart and sample generic Job Action Sheets for the Command Staff.

CEO and Board: They will bear the ultimate responsibility for the safety of staff, patients and visitors and for the effective operations of the hospital during regular and emergency situations. The majority of incidents will not place the CEO in an Incident Manager role. It is key that the CEO and board make sure they are aware and informed about emergencies, and able to take control when the scale or scope impact the hospital-system.

Scribe: This person is responsible for documenting all conversations and decisions as they occur, which will provide a permanent record of events. That includes minutes for business cycle meetings, event logs, and incoming calls/faxes/emails. Such documentation can help to improve preparedness and response activities for future incidents, and also provide necessary facts in the event of later investigations.

Figure 5.3 : The basic Hospital Incident Management System Organizational Chart.

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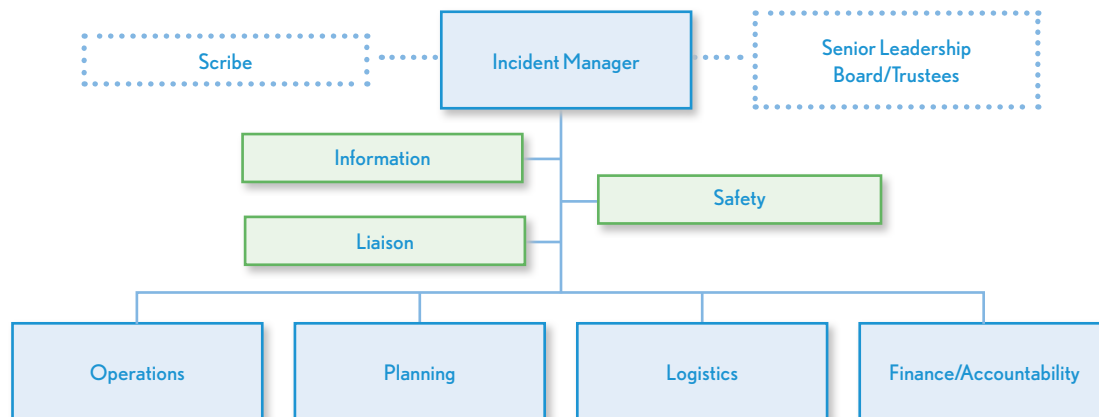
31 Hospital Incident Command System, Emergency Medical
    Services Authority - Disaster Medical Service Division (2006)
    http://www.emsa.ca.gov/HICS

How is the IMS used to respond to emergencies?

When an incident or emergency happens, a series of steps occur, starting with recognizing the incident and understanding the organizational policy for dealing with that type of emergency (e.g., notify switchboard using a specific extension).

1. Assessing the incident situation.

Includes gathering preliminary information about the situation, type of incident, location, impact and expected duration, and if there is the potential for other hazards to occur or to be sequentially linked. The initial analysis will consider the level of complexity in implementing the response. Consider the impact to safety, property and environment, the need for additional resources, other hazards, and whether it is a potential crime scene.

Hospital emergency response complexity levels:

- Person at the incident scene can manage response.
- Requires designated Incident Manager and potentially other roles.
- Suggests activating the upper tier of IMS.
- Suggests activating full IMS organizational chart.

2. Notification of staff and leaders.

Where the incident requires the mobilization of resources (i.e., human and supplies) that are not available at the scene, a process must be developed to notify others. While many incidents will never require activation of the entire IMS organizational chart, the notification step will raise awareness of the emergency, and of the action taken for immediate response. Refer to the Adopt the OHA Standardized Emergency Colour Codes Chapter for further details.

Incident Manager Transfer of Command and Delegation of Authority:

The CEO has the ultimate responsibility and authority to act on behalf of the hospital, however, the majority of incidents will not require that the CEO lead the response. Though authority may be delegated to the most competent person to carry out the specific functions of the response, this does not relieve the CEO of ultimate responsibility. The Incident Manager should continue to assess the situation and, where the scope expands from local to impact on the hospital operations, report it and transfer command to a higher level that has the necessary authority. Transfer of command may also occur for other reasons including:

- A more senior/experienced person is designated by the hospital to assume control of an escalating incident.

- The incident runs over different operational periods (i.e., duration is long).

- A qualified person with specialty knowledge is designated to lead the response (e.g., Chief of the Fire Department).

- An individual is not coping well in the role and is relieved of the responsibility.

- The situation is winding down and an alternate individual can cover role.

Key steps that occur include: Meeting the replacement and conducting a situation status briefing on everything that occurred to that point, outlining incident objectives and priorities; the current IMS organization and resource assignments, the resources ordered, the communications and other plans activated. Before leaving ensure that contact information is provided.

3. Taking charge.

The boundaries of authority in the early stages of an incident may not be obvious, with the person in charge being the first to arrive at the scene. The Incident Manager should be assigned based upon who is the most competent and confident to take the position as well as who most familiar with IMS. Thus, transfer of command is considered.

4. Mobilizing staff.

When assembling the response team, only necessary functions are filled, ensuring that form follows function. Each activated section must have a person assigned to the role, although one person may take on more than one functional role (i.e., this is often employed in smaller hospital facilities). Only three to seven people should report to one role, with five being the optimal number.

5. Determining if an emergency operations centre (EOC) is required.

Also referred to as a Command Centre, this is a physical location established so that individuals involved with the response have a place where they can be briefed and receive work assignments. It can also simply be a formal room that supports the coordination of a response. Consider the level of complexity of the response.

6. Managing by objectives and creating the Incident Action Plan:

Incident Action Plans pull together an assessment of the situation and contingencies to determine objectives, resources and actions. This includes setting the operational period (usually 8 to 12 hours), determining overall priorities, establishing specific, measurable, and attainable objectives and effective tactics, identifying resources, developing and issuing assignments to staff, and then directing, monitoring and evaluating response to adjust in the next operational period. Through documenting results, corrective actions can be made to the Incident Action Plan about what must be done, by whom, how and with what timing.

The Emergency Operations Centre (EOC)

The EOC is a pre-designated room that pulls people together for centralized coordination of information, resources, and communications. The EOC will help support the Incident Management team coordinate the response to one or multiple incidents, and interface with other organizations or levels of government.

The location of the EOC must be based on the analysis of potential threats that may impact the organization or area. It should be designed with redundant systems and support sustained occupancy since the duration of some emergencies may be several days to months.

In developing the EOC consider things such as an area of the hospital that is less vulnerable to hazards, where access and egress can be controlled, and that can support personnel for an extended period of time. Ensure that there is access to resources such as computers, telephones, emergency power, cell phones, batteries, and water.

A plan should be developed that outlines the criteria for the EOC as well as for the procedures or sequence of steps for activating it. Some criteria include the hospital need to coordinate hospital-wide to ensure care standards are met, scale-back services, deal with media inquiries, or access resources. The sequence of steps may include:

- Making the decision to activate
- Alerting people required to be there
- Activating the communications equipment

Refer to the Toolkit Appendix Tools and Templates section for the Elements of the EOC tool and visual of a hospital EOC.

7. Identifying resource requirements and assign roles and responsibilities.

Resources include not only the people, places, equipment and supplies available or required to deal with the emergency, but also for the hospital to continue to provide patient care services as part of regular operations. Led by the Logistics Chief, this role requires the understanding of resources available, how to determine and fulfill needs, and tracking for efficient use. Resource plans should consider contingencies and mutual aid agreements.

8. The operational business cycle.

This is essentially a cycle that considers how the Incident Manager and Chiefs/Officers meet to exchange information, identify issues, and set objectives. It can vary in length depending on the scale, complexity and pace of the emergency, but typically is not longer than 24 hours, and can be as short as half an hour to an hour. Steps included are noted in the figure below.
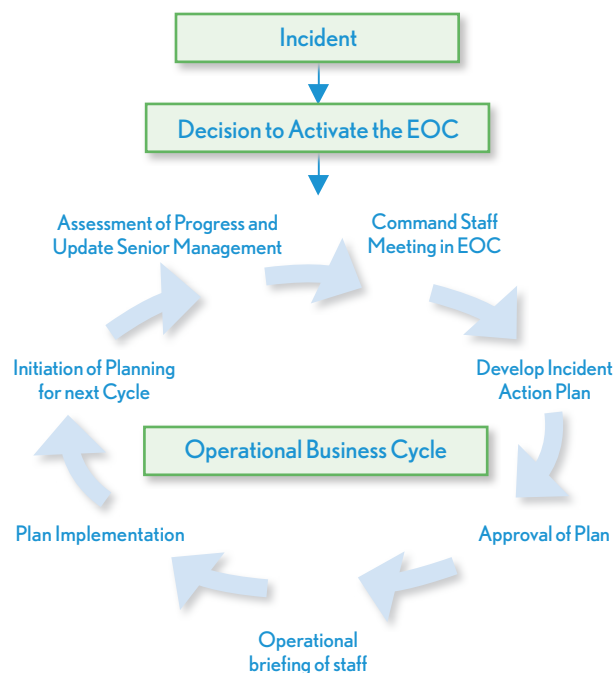

9. Expanding the IMS organizational chart.

If required, expanding the IMS organizational chart ensures that the manageable span of control is maintained and that groups and individuals are focused on specific tasks required for the response to the emergency and maintenance of patient care services (refer to Figure 5.4). Throughout a response, there may be areas that come and go depending on the objectives of the response. When expanding the following terminology is recommended:

- Sections – those organizational levels that have functional responsibility (e.g., operations, planning)

- Branches – used to identify specific areas of responsibility for a major response issue (e.g., decontamination, communications)

- Sectors – are either task-driven or geographically determined if multiple sites are involved (e.g., triage of patients)

10. Demobilizing and transitioning to recovery.

It is important to develop a recovery plan that details the process of deactivating or de-escalating emergency response plans and the steps required to return the hospital back to normal operations. Refer to the Plan Development and Implementation Chapter for additional information on the Recovery Plan.

Figure 5.4 : The expanded hospital Incident Management System Organizational Chart.
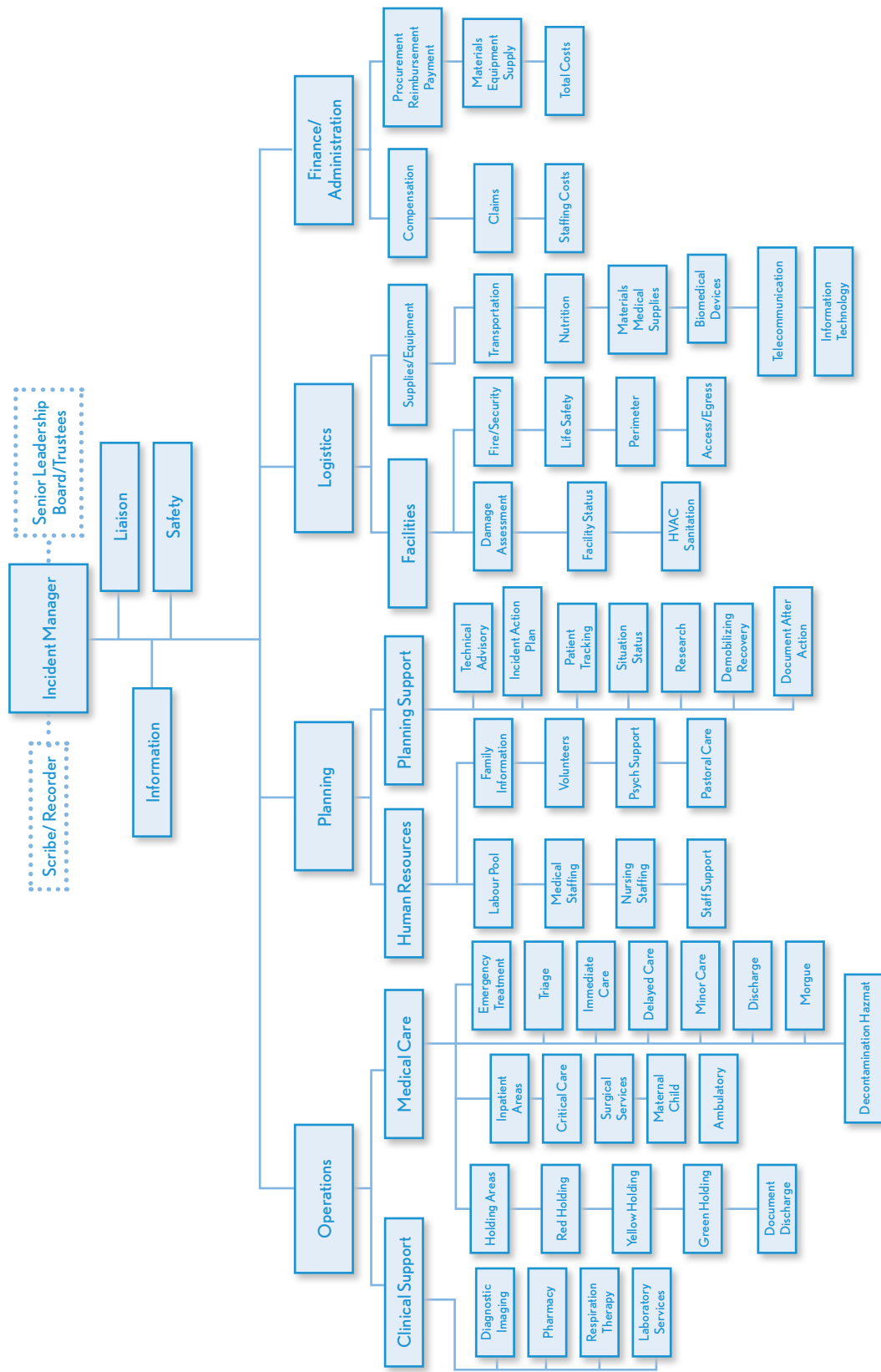
What You Need to Do

Adopt the IMS Framework and Develop Emergency Response Plans

1. Rationale: Why is it necessary?

The organization is required to use the IMS system to direct, control, and coordinate emergency response and recovery operations. [32] Therefore ensuring that plans are structured according to the IMS will ensure that preparedness activities are aligned and information is available in a format useful to those responding.

2. Goals and objectives.

These can assist with performance and program evaluation components, and could include:

• Standardizing organizational structures, processes and procedures for hospital preparedness and response activities; and,

• Enhance collaboration and coordination during emergencies between the hospital and other organizations.

3. Approach.

Hospital Emergency Response Plans outline the overarching objectives, assumptions, and procedures, as well as protocols for the response and recovery stage of emergencies. For those hospital Emergency Preparedness Leads who are just starting out, or for those who have a plan in place, the following approach is recommended:

1. Become familiar with the IMS model, chart, and terminology used.

2. Review the hospital HIRA and assess the types of hazards and risks particular to a hospital. Consider mitigation strategies.

3. Develop objectives of what preparedness efforts need to be taken and types of plans that will guide the hospital response (e.g., communications, security, materials management). Consider additional guidance provided through community or provincial plans, which may be in place for that hazards. Refer to the Toolkit Appendix Tools and Templates section for the Risk Management Matrix.

4. Divide and develop plans according to preparedness, response and recovery activities that need to be completed by the hospital.

5. Determine the types of key functional roles required and frame the plans into what command staff need to know and what they need to do.

6. Determine what other potential roles need to be activated in the IMS organizational chart, and what specific responsibilities need to be completed by each.

7. Develop tools and templates to support the response phase (e.g., job action sheets).

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32 CSA Z1600

When IMS is used in the emergency plan consider the following questions:

- Who is in charge of activating this plan?

- Who will be notified upon activation and what information should be provided to them?

- Who is in charge of implementing this plan and to whom do they report?

- What information will the Command staff need to know to make decisions?

- Will implementation of the plan require coordination or communication with internal or external stakeholders? If so, how will this occur?

- If the role needs to be filled by a designate, what tools would assist the person with fulfilling the role?

- What are the resources required to fulfil the response requirements?

- Should the Emergency Operations Centre be activated?

4. Supporting structures:

Developing the supporting structures such as the EOC and required elements of different plans when they are activated (e.g., how communications will occur, stockpiles of equipment and supplies).

5. Tools and Templates:

Support plans with the development of tools such as Job Action Sheets, which are pre-planned expectations for each position in the IMS. They are developed to support plans and procedures and outline immediate and longer-term activities. Other templates include standardized framework for communications and information sharing which consider the medium by which the communications will be shared with the different stakeholders. Refer to the Plan Development and Implementation chapter for further details.

6. Develop and implement Education and Training:

Develop and implement a plan for targeted training in IMS key concepts and role playing for key command staff and others who may be involved in the response phase, and also consider what front-line staff must know.
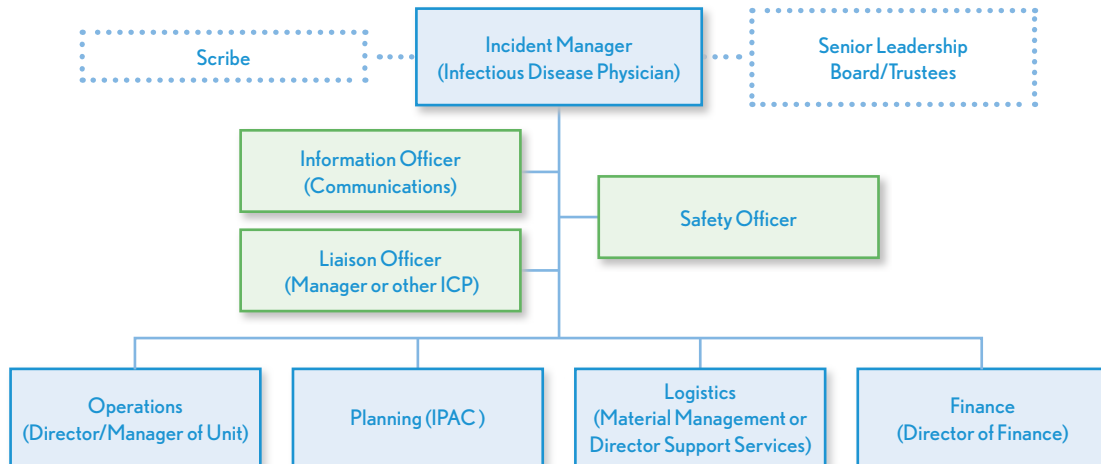
Using IMS for Outbreak Management

Epidemics of communicable diseases or infectious diseases pose threats to hospitals where the patient population is critically ill. The following example considers the hazard that results from the detection of a cluster of patients who are suspected of having *Clostridium difficile* (*C. difficile)* and how the IMS could be used in that hospital.

Mitigation strategies to prevent the spread of infection include following routine precautions. For patients that present with symptoms of *C. difficile,* moving them to private rooms, Using proper signage and contact precautions, and testing any other patients who come in contact with the infected to prevent spread could all be considered mitigation strategies to prevent outbreaks.

Preparedness efforts and types of plans that could be developed include those related to surveillance, infection prevention and control, occupational health and safety, communications, education of staff, and equipment and supplies.

The positive confirmation of the test from the laboratory may result in a series of cascading events including, surveillance of other patients and the notification of the public health unit and staff on the unit. Activation of the Infection Prevention and Control (IPAC) plan would ensure the completion of reporting forms, communication with the public health unit, and that proper precautions are taken by staff, that hand hygiene and personal protective equipment are utilized and that there is increased monitoring of housekeeping.

Key hospital staff involved in the response includes staff from Infection Prevention and Control IPAC, the infectious disease physician, materials management, and the unit nurse manager. However, depending upon the scale and scope of the outbreak, the complexity may warrant transfer of authority to senior leadership to minimize reputational risk and ensure continued safety of staff, patients and visitors. Using the IMS framework, the response may look like the following:

Resources

Annelli, J.F. The National Incident Management System: a multi-agency approach to emergency response in the United States of America; Rev. sci. tech. off. Int. Epiz., 2006, 25 (1), 223-231

Canadian Standards Association (CSA) Canadian Emergency Management and Business Continuity Program Standard (CSA Z1600)

Christian, M, kollek, D. and Schwartz, B; Emergency Preparedness: what every health care worker needs to know; Canadian Journal of Emergency Medicine (2005); 7 (5): 330-7

Emergency Management Doctrine for Ontario. Emergency Management Ontario
http://www.emergencymanagementontario.ca

Federal Emergency Management Agency's (FEMA's) National Incident Management System (NIMS)
http://www.fema.gov/emergency/nims/index.shtm

Hospital Incident Command System, Emergency Medical Services Authority - Disaster Medical Service Division (2006)
http://www.emsa.ca.gov/HICS

Hospital Incident Command System, Emergency Medical Services Authority - Disaster Medical Service Division (2006)
http://www.emsa.ca.gov/HICS

Mutual Aid Course;
http://training.fema.gov/emiweb/is/is706.asp

Task book and checklist for key functional roles;
http://www.nimsonline.com

The Firefighting Resources of California Organized for Potential Emergencies (FIRESCOPE) ICS Field Operations Guide (2004); and The Canadian Interagency Forest Fire Centre's Canadian National Training Curriculum (2002)

The US National Fire Protection Association (NFPA) 1561, Standard on Emergency Services Incident Management System (2005)

The US National Fire Protection Association (NFPA) 1600, Standard on Emergency Management and Business Continuity Programs (2007)

The United States Department of Homeland Security's National Incident Management System (NIMS) 2004 (FEMA 501), and its accompanying NIMS Basic Series (2006)

Zane, R. and Prestipina, A Implementing the Hospital Emergency Incident Command System: An Integrated Delivery System's Experience; Prehospital Disaster Medicine, Vol 19, No. 4, October-December 2004;
http://pdm.medicine.wisc.edu

Checklist

☐ Build familiarity of the IMS, the terminology and function of how it can be applied by the hospital for emergency preparedness and response.

☐ Develop supporting structures such as the EOC. Ensure that there is linkages between the hospital and other hospitals and the municipality EOC.

☐ Ensure that all emergency response plans are developed or updated to be consistent with the IMS principles and functions.

☐ Develop necessary tools and templates to support plans (e.g., job action sheets)

☐ Develop and implement an education plan to build awareness and support application of the senior leadership, staff and external stakeholders about IMS, how the hospital will utilize the framework during the response stage.

Chapter 6:
Adopt OHA Standardized Emergency Colour Codes

EMERGENCY COLOUR CODE LIST

CODE YELLOW Code Amber*	Missing Person Missing Child/Child Abduction
CODE ORANGE Code Orange CBRN*	Disaster CBRN Disaster
CODE RED	Fire
CODE WHITE	Violent/Behavioral Situation
CODE BLUE	Cardiac Arrest/Medical Emergency - Adult
CODE GREEN Code Green STAT	Evacuation (Precautionary) Evacuation (Crisis)
CODE PINK	Cardiac Arrest/Medical Emergency - Infant/Child
CODE BROWN	In-facility Hazardous Spill
CODE PURPLE	Hostage Taking
CODE BLACK	Bomb Threat/Suspicious Object
CODE GREY Code Grey Button-down*	Infrastructure Loss or Failure External Air Exclusion

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Chapter 6: Adopt OHA Standardized Emergency Colour Codes

Whether emergencies are gradual by onset or immediate, they present a threat to the health and safety of staff, patients, and visitors, along with overall operations of the hospital. Developing a means of rapid communication with staff that results in specific and pre-determined responses can help to ensure effective and efficient responses to emergency situations.

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> The purpose of this chapter is to outline the standardized emergency colour codes. Upon completion of this chapter you should understand:
>
> - What the Emergency Colour Codes are and how they are used
> - How to integrate the Codes with the Incident Management System (IMS) framework for preparedness and response activities

What You Need to Know

What are Hospital Emergency Colour Codes?

They are words used to alert staff to an emergency situation that has occurred in the hospital, and to activate an *immediate response* from individuals or groups of individuals to that specific emergency. They were developed to promote a common language and response, to reduce the amount of information staff must learn and prevent alarming patients and visitors. Where the word "code" serves as the primary cue, it also indicates a secondary cue is coming (a colour)[33]. Colours are used to help staff remember the associated emergency (e.g., Code Red to indicate fire with red being the colour of fire trucks).

The ultimate goal is to have a common set of base colour codes and definitions for all hospitals in Ontario so that as staff move from one organization to another there is minimal confusion and the safety of staff, patients, and visitors is not compromised.

Background on Standardizing the Emergency Colour Codes

In 1993, the OHA Board of Directors endorsed Emergency Colour Codes to help reduce the chance of human error and eliminate confusion among hospital staff during an emergency. These codes were also endorsed for Canada-wide use by the Canadian Hospital Association (CHA) Board of Directors in a March 1993 policy statement. Many other provinces and territories have since adopted the codes.

Post-SARS, considerable attention was paid to hospital preparedness and response to emergencies, with a specific recommendation from the Walker Report (2004) around hospital emergency colour codes. The Health Emergency Management Committee (HEMC), recommended that the OHA work to see how the Colour Codes were being used and work to 'pre'-standardize them throughout hospitals in Ontario.

In 2006, the OHA surveyed a proportion of hospitals on the use of emergency colour codes. The survey showed that while existing standardized codes were consistent, several new codes had been created and these codes were not consistent between hospitals. These new codes had a wide variety and included numbers and colours representing various events or safety concerns. The goal is to restore the standardized set of codes and corresponding definitions for responding to the emergency events internal/external to the organization. ***It is recommended that hospitals take steps to realign with the OHA standardized emergency colour codes.***

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33 Hanna, J. Disaster Planning for Health Care Facilities, Third Edition;

EMERGENCY COLOUR CODE LIST

CODE YELLOW Code Amber*	Missing Person Missing Child/Child Abduction
CODE ORANGE Code Orange CBRN*	Disaster CBRN Disaster
CODE RED	Fire
CODE WHITE	Violent/Behavioral Situation
CODE BLUE	Cardiac Arrest/Medical Emergency - Adult
CODE GREEN Code Green STAT	Evacuation (Precautionary) Evacuation (Crisis)
CODE PINK	Cardiac Arrest/Medical Emergency - Infant/Child
CODE BROWN	In-facility Hazardous Spill
CODE PURPLE	Hostage Taking
CODE BLACK	Bomb Threat/Suspicious Object
CODE GREY Code Grey Button-down*	Infrastructure Loss or Failure External Air Exclusion

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*New codes being standardized in 2008

OHA Emergency Colour Codes (2008):

The Emergency Colour Codes and recommended language have been standardized by the OHA[34] (see previous page). The recommended list reflects the required responses to internal and external emergencies that result from the hazards and risks a hospital faces. While the colour codes are the same, the response will be unique to each organization, allowing for procedural flexibility to address unique needs such as suffixes of Alert, Confirmed, or Cancelled. Refer to the Toolkit Appendix for a background detail about emergency colour choices and the Hospital Emergency Colour Codes Chart.

What are the new codes?

Code Amber procedures remain under code yellow as a subset, and refer to a missing child or infant who is suspected of being abducted. When the code is called, staff are notified that a child or infant is missing, further details would be provided on things such as description and name, and it would result in a targeted search by staff.

Code Orange is used in the event of an external disaster, and would result with a surge of casualties seeking care at the hospital urgent/emergency department. Code Orange CBRN (Chemical-Biological-Nuclear-Radiological) supports an immediate response of the hospital CBRN team coming together to respond, such as in the setting up of the decontamination tent for incoming patients.

Code Purple supports an immediate response where a hostage is taken in a hospital. Code Purple results with facility staff contacting police and working to restrict the area and if possible evacuate patients, visitors, and staff from the immediate or surrounding area. It is important to distinguish it from Code White (Violent/ Behavioral Situation) where staff could come to assist and potentially detain the aggressive person and would be called over the loud speaker. Further, it is possible to have a Code White escalate to a Code Purple.

Code Grey was standardized to support an immediate response related to infrastructure (e.g., telephones, power, water). The code is called followed by the type of emergency, and specific location. The Code Grey Button-Down procedure remains as a subset.

What about other cases that may need an Emergency Colour Code?

Several hospitals have developed and are using codes that are different from standardized ones. Not every scenario requires a colour code and the OHA standardized emergency colour code list considers a core set of emergency situations that require an immediate response. ***It is recommended that hospitals take steps to realign with the OHA standardized emergency colour codes.*** Where a hospital is not using that colour code, then it is important that the colour code not be used to define another immediate response because this will create confusion in the system.

In other cases, some hospitals have developed codes for specific departments in the hospital. It is not clear why department codes are being developed, and it is recommended that codes not be used for departmental emergencies since there should be clear procedures followed. Where codes have been developed departmentally, care must be given to the process for activation and use. Furthermore, hospitals should not use a colour code, and they should develop a plan and notification process that gets approved by the Emergency Preparedness Committee.

Finally, care must be given to distinguish between emergency colour codes, which are situations in which the "emergency" requires an immediate response (e.g. fire), from things that are actually policies, plans or procedures (e.g., lockdown, gridlock). In the end it is important to keep things as simple as possible, and minimize the number of codes to the core sets of emergency situations that require an immediate response.

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34 The OHA raised awareness and obtained endorsement in principle of the Emergency Colour Codes from other stakeholders such as the Office of the Fire Marshall and Ontario Association of Emergency Managers.

Why is there no code for pandemic influenza?

Post-SARS, considerable attention was paid to hospital preparedness and response to emergencies, with a specific recommendation from the Walker Report (2004) that the OHA, Canadian Healthcare Association (CHA) and MOHLTC to develop a Code for Infectious Diseases. Since codes should signify an immediate response, it is not clear what the expected response for such a code would be. It was felt that Code Orange allowed for the initial steps, and through the Emergency Operations Centre, specific plans for how hospitals would deal with infectious diseases (e.g., pandemic influenza) could be activated upon the threat or incidence of infectious disease. Activation of the pandemic plan, would in turn result in activation of other plans such as surveillance, infection prevention and control, occupational health and safety that have specific activities.

Integrating the IMS and hospital emergency colour codes

IMS can be used for response to any emergency or type of incident, including the colour codes. The OHA has developed a suggested overlay framework that links IMS to the emergency colour codes. This strategy does not replace specific plans and procedures for codes, but aims to compartmentalize what needs to be done, and by whom to quickly organize the response and allocate tasks. As a result, preparedness considers the key functions and roles that need to occur during an emergency and is driven by the objectives. Refer to the Toolkit Appendix Tools and Templates section for the IMS-Hospital Code Overlay Tool.

Consideration should also be given to the scale and scope of the emergency. For instance, if it is a small contained event, the steps taken to deal with the incident and return to normal may result with only a few sections of the IMS model being activated (e.g., Code Brown). For larger events, while it may initially start with a few sections of the model being activated and people playing multiple functional roles, it may be expanded significantly to deal with complexities and duration elements (e.g., Code Orange). The Incident Manager should be the person most knowledgeable about the required response to the emergency at hand (e.g., spill management, fire).

When IMS is used in the emergency plan consider the following questions:

- Who is in charge of activating this plan?

- Who will be notified upon activation and what information should be provided to them?

- Who is in charge of implementing this plan and to whom do they report?

- What information will the Command staff need to know to make decisions?

- Will implementation of the plan require coordination or communication with internal or external stakeholders? If so, how will this occur?

- If the role needs to be filled by a designate, what tools would assist the person with fulfilling the role?

- What are the resources required to fulfil the response requirements?

- Should the Emergency Operations Centre be activated?

The Emergency Colour Code response

Depending upon the nature of the incident, the response may involve a large or small number of staff. For instance, a staff nurse who notices a patient has gone missing from the unit, will often assume the role of Incident Manager and direct staff to search the local area while notifying the appropriate people (e.g., nurse manager, switchboard). If a full-scale search is required, the staff nurse will transfer command to an organizational incident manager who will make the decision on how the search will be conducted and what parties need to be involved.

Some Emergency Colour Codes rely on designated response teams (e.g., Code Brown may have spill response teams, Code Orange may have CBRN response teams). In such cases, when the code is called, a pre-determined member of the response team will become the Incident Manager and lead the appropriate response. The person in the role of Incident Manager is responsible for the management of the response activity, until the conclusion of the response (e.g., code terminated or response declared over) or until command is formally transferred to another person.

> **How to activate the plan and connect it to IMS**
>
> **When?** The trigger for activation of the plan may be using the Emergency Colour Code as an alert notifying staff and resulting in the activation of the response.
>
> **Who?** Consider who has the authority to activate a code. Depending on the resources required in the response, a higher level of authority (e.g., administrator on call or CEO) may be required.
>
> **What will happen?** The Incident Manager will fill section roles and assemble the Incident Management team to consider the immediate responses required of them.

What You Need to Do

Adopt the OHA Emergency Colour Codes and develop plans and procedures

1. Rationale: Why is it necessary?

To ensure the hospital is aligned with the recommended standardized Emergency Colour Codes developed by the OHA, which aim for consistency across the province to promote staff, patient, and visitor safety.

2. Goals and Objectives.

These can include:

- Ensure the hospital has adopted the OHA Emergency Colour Codes

- Ensure that guiding principles for preparedness (e.g., safety and protection of staff) are grounded in all policies, plans, and procedures

- Enhance collaboration and coordination by clearly outlining roles and responsibilities within the organization, and more so when other organizations are involved in the response

3. Approach:

Hospital Emergency Response Plans outline the overarching objectives, assumptions, and procedures as well as protocols for the response and recovery stage of emergencies. For hospital Emergency Management Leads who are just starting out, the following approach is recommended:

1. Pick a colour code.

2. Review the hospital HIRA and assess what may happen to the hospital, which could result in this colour code being called. Through the prevention and mitigation strategy activities, safeguards can be considered and implemented.

3. Develop objectives of what preparedness efforts need to be taken and types of plans that will guide the hospital response (e.g., communications, security, materials management). Consider additional guidance provided through community or provincial plans, which may be in place for some hazards.

4. Divide and develop plans according to preparedness, response and recovery activities that need to be completed by the hospital.

5. Determine the types of key functional roles required and frame the plans into what command staff need to know and what they need to do.

6. Decide what other potential roles need to be activated in the IMS organizational chart, and what specific responsibilities need to be completed by each.

7. Highlight each function on the IMS Organizational Chart and obtain input.

8. Determine assumptions you are making to guide the plan development (e.g., about internal or external stakeholders).

9. Develop plan elements for the code: Preparedness efforts should frame the plan into what staff need to know and do. Refer to the Toolkit Appendix Tools and Templates section for the Hospital Emergency Colour Codes Overview table for further details.

Elements of a Colour Code Emergency Response Plan:

1. Policy Statement
2. Authority to Declare
3. Notification Procedures
4. Response Procedures
5. Recovery Procedures
6. Appendices

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a. Policy Statements: This is the purpose and objectives statement. It should start with a specific statement that outlines what is expected in the situation and the hospital's commitment to the safety and protection of staff, patients, and visitors.

b. Authority to Declare: Who in the organization has the authority to declare this code upon discovering an emergency? What are the types of sensory cues that a person could experience or come upon?

c. Notification Procedures: When and how to activate? Who will be notified and what information should be provided? Identify clearly what are the steps to be taken to notify staff (e.g., switchboard or manager), how (e.g., number to dial), and what is the initial response (e.g., internal staff notified, external organizations notified).

d. Response Procedures: Detail specifically what should occur in the response phase. This could include a flow chart of activities, and key roles and responsibilities of the responders.

I. Who is in charge of implementing the plan? Are other key functional roles required? If so, what key responsibilities and roles are there?

II. Are there other specific plans or procedures required?

III. Will implementation require coordination with or communication with internal or external stakeholders? If so, how will this occur?

IV. What are the resources required to fulfill the response requirements?

> **Activation of the EOC required?**
>
> Not all hospital Emergency Colour Codes require the activation of the EOC. The predominant number of emergency responses using the codes are initiated and concluded without need for either the EOC or staff. There may also be disparity from one hospital to another as to which codes require involvement of the EOC staff. Generally, activation is required when the magnitude of the incident exceeds normal demands on the hospital's services and resources, therefore requiring timely, central command and coordination.

e. Recovery Procedures: What are the steps taken to deactivate the code or terminate the response? Outline what the hospital should do after the response stage is over, such as confirm documentation, debriefing with response staff, and reviewing and updating the code with lessons learned.

f. Appendices: This should include mitigation and preparedness strategies taken by the organization, location of key equipment, contact lists, checklists, legislation and other requirements, diagrams and pictures showing procedures, templates developed for response stage, and an after-action report sample.

Develop tools and templates to support the response phase (e.g., Job Action Sheets) that encompass what needs to be done by whom. Refer to the Toolkit Appendix Tools and Templates Section for suggestions on the IMS-Colour Code Overlay and examples of Job Action Sheets for Emergency Colour Codes.

4. Develop and Implement Education and Training:

Develop a plan for targeted training of key command staff and more broadly of hospital staff. Refer to the Toolkit Appendix Tools and Templates section for the Education matrix for further details.

5. Evaluation and Update:

Establish a process to regularly exercise the emergency response plan, complete the After Action Review and update the plan. Plans should also be reviewed and updated following an emergency that requires the use of a colour code.

Code Grey – *Infrastructure Failure*

The code designated to alert the organization to an infrastructure loss or failure of substantial significance (e.g., flood, emergency generator), or to keep external air from entering the facility (e.g., external chemical plume). It is to be used if a building or location has sustained damage (Code Grey – Infrastructure Failure) or is subject to air quality concerns (Code Grey – External Air Exclusion). Both situations may necessitate immediate relocation or evacuation of its occupants.

The increasing reliance on electronic information and retrieval means that it is essential that hospitals have plans to ensure security of information, confidentiality, and business continuity should the systems fail. The completion of the **HIRA** will identify the hazard probability (e.g., natural disasters, application failure, service provider failure, human error) and impact (e.g., inability to treat patients due to equipment failure) to best understand the interdependencies between systems and develop contingencies or redundancies to mitigate interruptions and ensure a level of capability following disruptions.

Mitigation strategies could include protecting current systems through engineering barriers or having them in locations that are less vulnerable to natural/man-made disasters and administrative policies that ensure the information is regularly backed up or that there is controlled access to systems.

While critical resources such as electrical power and telecommunications reside outside of the hospital, the Chief Information Officer has the lead to protect the Information Technology (IT) infrastructure and through preparedness efforts can develop plans and policies, build relationships with the municipality, and ensure redundancy for protecting systems.

It is unlikely that the IT department can identify all critical business functions and will require input from different departments to better understand the service level requirements of those essential services and functions of the hospital. The **plan** should consider a degree of disruption (minor to extreme) that could last 12, 24, or 48 hours and consider things such as, how can the facility's records, equipment and other critical assets be protected and backed up. Other considerations include developing an inventory of assets, cross training staff, developing a communications plan to inform both internal and external stakeholders.

In the event of infrastructure crisis, the **response** stage may not require activation of the full IMS organizational chart, but rather only those components that are relevant to the response. As noted below, the CIO activates the plan and leads the response as the Incident Manager, supported by the IT team to assess the impact of the outage and work with the local municipality or service provider to return systems to normal and prevent overload of back-up generators. The recovery plan would include damage and loss assessment, and recouping infrastructure expenditures from insurance.
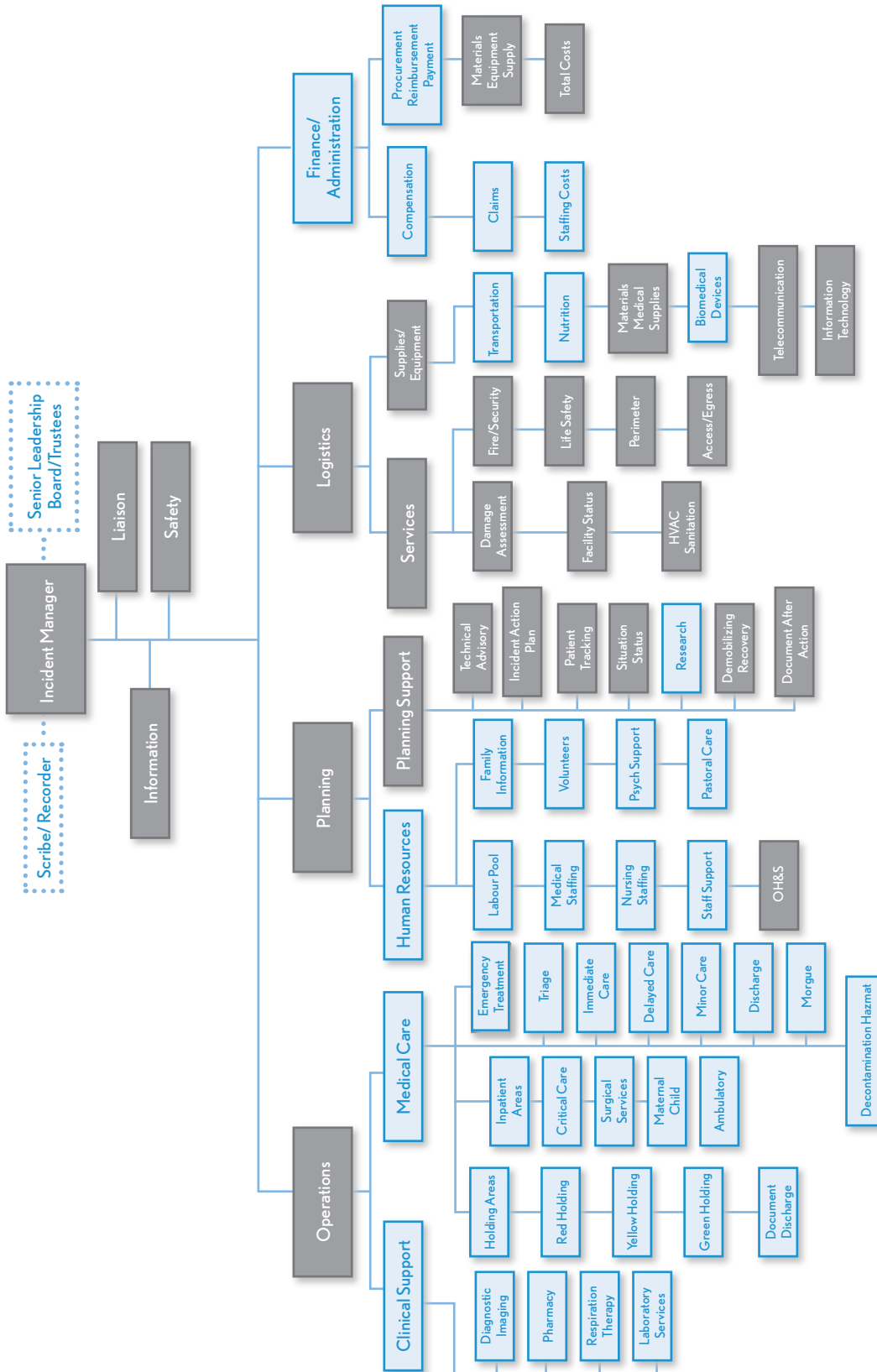
Resources

Hanna, J. Disaster Planning for Health Care
Facilities, Third Edition.

Checklist

☐ Ensure that the hospital is aligned with and adopts the OHA standardized emergency colour codes. This may require that the Emergency Preparedness Lead presents the standardized codes to the Hospital Emergency Preparedness Committee and obtains formal approval of the committee.

☐ Develop or update the colour code emergency response plan to ensure that it is consistent with the Incident Management System principles and functions, and plan elements consider things such as, policy statement, authority to declare, notification procedures, response and recovery procedures, and any other specifics.

☐ Develop and implement Emergency Colour Code training for all staff.

Chapter 7:
Plan Development and Implementation

Chapter 7: Plan Development and Implementation

The hospital response to emergencies, whether they are internal or external to the facility, is vital. Effective response is predicated on well-thought-through facility plans that establish a coordinated process between different elements required such as patient care services, business operations, and dealing with the emergency at hand.

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> The purpose of this chapter is to consider how the elements of the hospital emergency management program come together and are implemented. Upon completion of this chapter you should understand:
>
> • How national, provincial, and local policies and plans can support the development of hospital policy and plans.
> • How the community can assist with plan implementation.
> • How to develop specific plans to support preparedness, response and recovery activities required for emergency management.

Guiding Principles:

- Emergencies may be either static (single adverse event occurs, generating a surge in demand for services that lasts six to eight hours) or dynamic (lasts for days or longer, and evolves on a daily basis).

- Hospitals may have to follow direction from local and provincial government depending upon the nature of the incident, as well as the scale and scope.

What You Need to Know

What are policies, plans and procedures?

A policy is defined as the information that establishes a basic requirement for how the organization functions (e.g., what you want to do). The plan outlines the rationale, goals and objectives, policies, organizational structures, roles and responsibilities, and procedures for the response and recovery stage. Procedures are defined as the actual methods that the organization uses to apply its policies (i.e., how you do what you want done) and include notification and activation of the emergency operations centre.[35]

Policies, plans, and procedures must be relevant to the setting and in establishing them, it must be clearly stated how they will be implemented, and who is responsible. They must also be reviewed regularly. They should also be written in collaboration with the target group, be resourceful to those responding, and be linked to an education and training program.

Role of national, provincial, and local policies

National policies, guidelines, and recommendations are developed to help ensure a consistent approach across all provinces and territories. In turn, the provincial government will develop provincial policies in accordance with national direction, which can help direct local policies and action, including those at the hospital level.

Where a provincial policy is not in place but is required to move decision-making forward in a key area (e.g., there currently is no provincial policy on the use of antivirals for prophylaxis during an influenza pandemic), associations or union groups may advocate for the government to develop one.

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35 Emergency Management Doctrine for Emergency Management Ontario Published August 2005.

What does this mean for the hospital?

In the absence of provincial direction, many hospitals may take steps to develop policies and plans to take action at the local level (e.g., use of antivirals for prophylaxis during an influenza pandemic, outlining fire procedures that are consistent with codes). Such decisions should include the input of relevant expertise, input of the multi-disciplinary Emergency Preparedness Committee, and should be approved by the CEO and senior administration (and potentially the board) if financial support is required for implementation. The hospital should complete due diligence to consider guidance from the province, OHA, and other stakeholders that may be able to shape the decision.

Provincial plans and implementation

Through the Ministry of Health and Long-Term Care's (MOHLTC) Emergency Management Unit (EMU), several priorities have been set that have resulted in the development of plans, regulations to legislation, and supportive infrastructure. This includes a Ministry Emergency Operations Centre (MEOC), provincial stockpiles of equipment and supplies, and call centres for providers, professionals, and the public to call during emergencies.[36] The most high profile plan is the Ontario Health Plan for an Influenza Pandemic (OHPIP) which has pulled together the input of a great number of stakeholders and consists of several chapters and annexes related to preparing for and responding to an influenza pandemic.

In 2006 and 2007, the EMU also developed the hospital emergency preparedness Chemical, Biological, Radiological and Nuclear (CBRN) program and delivered equipment, supplies and educational training to hospitals that have urgent care or emergency departments. The program equips them with the ability to respond to mass casualty CBRN events with the delivery of items such as a decontamination tent and specialized personal protective equipment (PPE).

To support responses where hospitals or communities are overwhelmed with the health response of an emergency, the EMU supports the Emergency Medical Assistance Team (EMAT), which is a mobile field unit that provides a staging and triage base for the evaluation and management of patients prior to transport to definitive care and has the capability to treat 20 acute care patients and 36 intermediate care patients.[37]

> ### What are the MOHLTC conditions for deployment of EMAT?
>
> The MOHLTC conditions for deployment of EMAT emergency are:
>
> - The event is a severe respiratory illness/ mass casualty/CBRN emergency
>
> - Code Orange is invoked (if a hospital is affected)
>
> - The community disaster plan implemented
>
> - Efforts to transfer patients out of hospital/ region as appropriate have been or will rapidly become inadequate
>
> - Resolution of emergency is predicted to be greater than six hours plus EMAT response and travel time
>
> If the emergency fulfills the above criteria, the hospital can take steps to request EMAT assistance by: contacting the EMU through Health Care provider 24-hour hotline (1866-212-2272). The EMU will make a decision, and deploy a primary team and take steps to place other EMAT clinical and operational personnel on standby for possible deployment. For further information visit *www.health.gov.on.ca.*

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36   Emergency Management Unit, MOHLTC *http://www.health.gov.on.ca*

37   EMU, MOHLTC *http://www.health.gov.on.ca*

Emergency Management Ontario (EMO) has developed specific policies, guidance, and plans related to critical infrastructure (other than health) hazards, and has the infrastructure to support implementation.[38]

Community plans and implementation

Through the municipality, a Community Emergency Management Program is developed and supported, where several priorities are set for plan development (e.g., severe weather, transportation emergencies), and which considers supportive infrastructure such as a municipality EOC, and coordination of local exercises and drills. When emergencies occur, while there is a period in which the incident causes disruptions, actions must be sufficient to respond to the scope of the emergency, to minimize the number of casualties, the damage to property, and the suspension of services. Effective command and control can prevent the incident from turning into a disaster.[39] To ensure this, it is important to have access to necessary resources.

Mutual Aid Agreements

Mutual aid is the formal request for assistance from neighbouring hospitals or health care facilities, when resources in a hospital are overwhelmed. A mutual aid agreement could be developed to obtain necessary resources that include supplies, the transport of patients, or access to staff with specialized competencies.

During the Response phase of an emergency, the Liaison Officer could enact the agreement. Consideration must be given to those situations where hazards impact neighbouring facilities and the community response may be overwhelmed.

What does this mean for the hospital?

While the majority of emergencies will result in minor and moderate surges requiring coordination and allocation of resources at the hospital level, response thresholds could require the coordination and allocation of resources at community/regional or provincial levels requiring a systematic plan that considers scale-up and linkages.

Therefore, in addition to the specific plans developed for the colour codes that represent a core set of emergency situations, and the priority hazards identified in the hospital hazard identification and risk assessment (HIRA), hospitals are expected to align with provincial and local planning efforts as well (e.g., hospitals should have and maintain a pandemic influenza plan). In 2007, the OHA developed and published the *Pandemic Planning Toolkit for Small, Rural and Northern Hospitals* to provide strategies, tools, and implementation information to support hospitals in pandemic planning efforts.

Further, it is important that hospitals consider and develop mutual aid agreements with other hospitals and health care providers in their community that will better enable them to respond when emergencies do occur. Also, clearly sharing assumptions and expectations that the hospital has made of community/regional stakeholders, promotes coordination and collaboration during emergencies.

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38   Emergency Management Ontario Website. *http://www.emergencymanagementontario.ca*

39   Planning for resilience in Hospital Internal Disaster (E. Sternberg); prehospital disaster medicine 2003; 18(4):291-300

What You Need to Do

Develop Specific Plans, Policies, and Procedures

1. Review the hospital HIRA.

Assess the types of hazards and risks that were prioritized under the risk score matrix. Re-evaluate the prevention and mitigation strategies considered and types of activities or measures that were considered and implemented.

2. Determine what preparedness efforts need to be taken.

Are preparedness and response efforts covered under a colour code response plan? If so, use the colour code. If not, for those priority hazards, specific plans should be developed. Consider first the guidance provided through community or provincial plans, which may be in place for some hazards, and then start to outline the elements required and types of plans that are needed to guide the hospital response (e.g., communications, security, materials management, health and safety, finance and purchasing, lockdown, gridlock) to create a menu of necessary plans.

Elements of a Colour Code Emergency Response Plan:

I. Rationale: Why is it necessary?

II. Goals and Objectives: What is the desired outcome?

III. Approach: How will it be executed?

IV. Policies and Procedures: What will support implementation?

V. Develop Materials: What is needed to support the plan?

VI. Evaluation and Feedback: Have the objectives been met?

I. **Rationale: Why is it necessary?** This should outline the legal basis or purpose for the plan and the response, along with the commitment of the hospital.

II. **Goals and Objectives: What is the desired outcome?** Each of the plans will have specific aims and, outlining them will assist with plan evaluation. Examples include:

- Ensure staff members are aware of and equipped to perform their designated roles and responsibilities during an emergency

- Identify all audiences, determine their information needs, and ensure the hospital responds in a timely and effective manner

- Ensure that the safety and protection of staff, patients, and visitors are embedded in all plans

- Effectively build surge capacity to accommodate both patients in the hospital and those seeking care as a result of the emergency

III. **Approach: How will it be executed?**

a. Designate the Lead. When the plan is large and complex, like a pandemic plan, it is key to have a designated person leading the overal development and assign development of specific targeted plans, such as communications, to staff experts in the area. Through the HIRA process, the hospital needs to prioritize the development of plans, so that the development of plans is not overwhelming or time consuming for those involved.

b. Ensure senior management is connected and aware of the overall plan objectives, along with that of specific plans. This will help the committee with obtaining buy-in for the implementation of the plan (e.g., having staff attend educational sessions, development of stockpiles, raising awareness of community stakeholders on expectations). Also the Joint Health and Safety Committee (JHSC) can be a helpful resource.

c. Divide and develop plans according to preparedness, response and recovery activities that need to be completed by the hospital, identify and obtain resources according to each of the phases.

d. Determine the types of key functional roles required to guide the necessary response and frame the plans into what command staff need to know and what they need to do (e.g., Logistics Chief, Communications Officer).

e. Determine other potential roles that need to be activated in the IMS organizational chart, and what specific responsibilities need to be completed by each. This is where the hospital starts to expand the IMS organizational chart and response structure to consider the lower tiers of responsibilities for the response. Outline the authority and organizational relationships during emergency situations and what actions will be coordinated and how it will be done.

IV. **Policies and Procedures: What will support implementation?** Develop policies and procedures to outline what should happen and how will it happen. Refer to the chapter Adopt OHA Standardized Emergency Colour Codes for further details.

V. **Develop Materials: What is needed to support the plan?** Develop materials such as, tools and templates (e.g., Job Action Sheets) to support the response phase that is inclusive of all the responsibilities of the position that encompass expectations from other plans.

VI. **Evaluation and Feedback: Have the objectives been met?** Evaluation and feedback opportunities should be used to present the plan to the Emergency Preparedness Committee, JHSC, and other stakeholders for feedback opportunities to test the plan on its own or as part of a broader exercise for more complex plans (e.g., test just the Communications Plan, or test the Communications Plan as part of the Pandemic Plan) should be identified.

6. Collaborate with the Community.

Share assumptions about the roles and responsibilities of stakeholders in the community during an emergency response, and share parts of, or even the entire plan, to gain feedback.

7. Education and Training Requirements.

To raise staff awareness of policies, plans, and procedures and equip them with the skills required to identify and respond to emergency situations. Development of an educational plan for Emergency Management considers learning objectives from multiple plans (e.g., Infection Prevention and Control, Occupational Health and Safety), but also may have different information being targeted to different people, depending upon their role in the response and the competencies that they need to have. For instance, a designated spill team for the hospital would be trained in responding to the types of spills that may occur (e.g., chemicals) and also the types of personal protective equipment to wear.

Key steps in the process are to consider the target audiences, identify and prioritize objectives for each, then look for resources - starting with the MOHLTC and OHA - or develop resources and consider activities to support dissemination. Also, develop a schedule for education and confirm who is delivering the education. (Refer to Toolkit Appendix Tools and Templates section for an Education Matrix.

The Communications Plan:

The Information Officer ensures that the hospital implements effective communications during the response phase of an emergency.

During the Preparedness Stage:

Rationale:

Will support accurate, timely, and consistent internal and external communications to enable a coordinated response, minimize confusion, and improve hospitals ability to respond.

Goals and objectives:

Could include ensuring that the hospital is up-to-date on all relevant information during preparedness and response stages, identifying audiences and determining their information needs, establishing processes for information flow, and developing materials to support hospitals communication roles.

Approach:

a. **Designate a person (and back up)** to be the communications lead and develop a plan.

b. **Designate spokesperson(s)** to communicate with internal and external audiences.

c. **Ensure the lead is familiar** with processes and materials required for different types of emergency responses and plans being developed (e.g., code responses, dynamic emergencies such as pandemic, business continuity requirements of the communications department).

d. **Identify stakeholders** for input of information and output from the hospital; may be internal or external.

e. **Identify sources of information** by becoming familiar with the MOHLTC and OHA information cycles, understanding how communications will occur locally, and joining relevant distribution lists to better understand the lines of communication.

f. **Develop processes to communicate:** take inventory of tools, learn about how communications should occur and learn methods and frequency, identify key topics, and develop contact lists, and the fan-out list that begins with the CEO or senior administration and continues through the reporting structure. Consider how staff will be notified and specifics around the use of coded messages. Finally consider backup communication systems.

g. **Develop materials** such as signage and the hospital information cycle (see next page).

Evaluation and feedback:

Build and test redundant systems and processes.

During the Response Stage:

The Incident Manager may choose to populate the Information Officer position with or without activating the Emergency Operations Centre (EOC). It is important to keep a summary of actions to take, the current status of the emergency and sources of information, and ensure all communication needs are covered as per requirements outlined in other plans (i.e., OHS, IPAC, education, HR).

During the Recovery Stage:

Ensure the communication plans continue to focus on the needs of staff, along with that of patients and other stakeholders, as the hospital returns to normal operations. Evaluate the effectiveness of the communication processes and tools used during the emergency response phase, and incorporate lessons learned into the plan.

How to Develop a Hospital Information Cycle in an Emergency

The OHA has developed an Information Cycle to serve as a conduit of information from the MOHLTC to hospitals during a provincial emergency, (e.g., pandemic influenza). As noted in the Information Cycle, key communications will occur daily at 6:30AM, 11AM, and 6PM, as noted in the diagram. Refer to the OHA website *www.oha.com* for further details.

Information Cycle

NOTE:

24 Hour Informal Feedback
the OHA will be available to members to receive input from the field regarding the emergency and to provide information.

Important Health Notices
sent to field to provide updates and new directions.

Videoconference/Teleconference
between OHA and members to obtain input & issues for MOHLTC 8:30AM

Videoconference/Teleconference
between OHA and members to obtain input and provide feedback about the days events

Videoconference/Teleconference
between Chief Medical Officer of Health (CMOH), Emergency Management Unit (EMU), Local Health Integration Networks (LHINs), professional associations, regulatory colleges, labour groups and regional offices

Executive Emergency Management Committee (EEMC)
meeting to update on daily issues and activities

Media Conference

Executive Emergency Management Committee (EEMC)
meeting to update on overnight issues

Public Health Teleconference
with CMOH, Public Health Division (PHD), Medical Officers of Health (MOHs) and EMU

Update members with information from Ministry Call
the OHA as the conduit organization will send information out to all member organizations

Hospitals should develop an Information Cycle to manage communications with their key stakeholders: the OHA, local PHU/Municipalities, and staff. Steps to take:

1. Determine the times for inputs of information (e.g., OHA, local PHU, municipalities) by considering respective Information Cycles.

2. Determine the time for internal communications and decision processes that need to occur prior to providing input and after information is received.

a. When will you communicate with internal staff (e.g., before 7AM shift change, at 12PM, and before 7PM shift change)

b. When will you communicate with external stakeholders?

3. Develop a hospital Information Cycle and communicate to internal and external stakeholders. Publish on the hospital website.

The Pandemic Plan

The threat of an influenza pandemic has caused worldwide concern and has resulted with considerable preparedness efforts at international, national, provincial, and local levels. In 2007, the OHA developed and published the *Pandemic*

Toolkit: for Small, Rural, and Northern Hospitals, which provides a seven step framework for all hospitals to develop and update pandemic plans for their facility. This section shows how the hospital pandemic influenza plan fits under the Emergency Management Program umbrella.

1 Ownership Commitment Sustainability

Who will lead the project? Is there organizational commitment? Your senior staff will need to commit to your approach. Pandemic Influenza Planning is an ongoing project – how will you sustain your planning efforts?

2 Needs Assumptions Objectives

What do you need to get up and running? Who are your keys stakeholders? What are your time requirements? How many people in your community may require admission? What are your objectives? Define them and create your terms of reference.

3 Steering Committee

Create work groups to undertake the planning of each component. Work groups should be organizational leaders. Consider at this time, presenting the planning strategy to the senior staff, the board of directors and to all staff.

4 Surveillance Patient Assessment | Staff Wellness and Infection Control | Patient Care and Essential Services | Facilities Supplies | Education and Communication | Other

5 Plan Development

6 Steering Committee → First Draft → Exercise → Update Plan → Communicate Plan

7 Final Draft Approval ← Ongoing Evaluation Maintenance

Developing Plans

In the process of developing plans, input should be sought from the Hospital Pandemic Planning Committee, along with external stakeholders in the community or provincially, who can assist with clarification of policies, plans, and procedures. The Toolkit outlines 16 discreet plans that should be developed by hospitals to assist with their preparedness and response efforts

How to develop a Plan?

In developing the plan, the objectives and procedures outlined must be consistent with the information provided at national, provincial, and local levels. Specific plans may actually be pulled from ones that the hospital has already developed. Thus, the hospital is not developing plans for every hazard, but pulling from a menu of different plans. Three key phases are included any specific plan: preparedness, response, and recovery, as outlined below.

During the Preparedness Phase:

Elements of a Plan:

1. Rationale: Why is it necessary?
2. Goals and Objectives: What is the desired outcome?
3. Approach: How will it be accomplished?
4. Evaluation and Feedback: How well does the plan meet the needs?

1. Rationale: Why is it necessary?

Clearly outline the purpose of this plan, and how inclusion of this plan will further hospital preparedness.

2. Goals and Objectives:

What are the desired outcomes? Should be specific, measurable, attainable, realistic, and timely, linking back to the supporting themes of developing the Pandemic Plan (e.g., safety and protection of staff, patients, and visitors). These can assist to focus the development of the plan and activities, and also support the evaluation of the plan.

3. Approach:

How will it be accomplished? Clearly outlines the process for how the plan will be developed. Some of the key steps to any plan are shown below:

a. **Designate a person** to develop the plan. Establishes ownership and accountability, utilizing the functional expertise of different people.

b. **Work with Senior Leadership and the Hospital Pandemic Planning Committee.** Ensuring that the plan and activities are not developed in a silo, but linked to the broader plan and needs of the hospital.

c. **Outline the Process.** Each plan aims to "do something". Develop the supportive materials and resources required for implementation.

4. Evaluation and Feedback:

How well does the plan meet the needs? Complete formal and/or informal evaluation and feedback to ensure that objectives are being met.

During the Response Phase:

Outline the activities that the hospital will perform during this phase. As part of the response phase, the IMS structure will dictate the activities through the operational business cycle and incident action plan.

During the Recovery Phase:

Outlines the activities that the hospital will perform during the recovery phase. Refer to the end of this chapter for further details on the elements of a recovery plan.

The Recovery Plan

Even before an emergency happens thought should be given to the recovery plan, and how the hospital will or can return to normal operations (pre-emergency conditions).

Elements of a Recovery Plan:

1. Rationale: Why is it necessary?
2. Goals and Objectives: What is the desired outcome?
3. Approach: How will it be accomplished?
4. Evaluation and Feedback: How well does the plan meet the needs?

1. Rationale: Why is it necessary?

Developing a recovery plan during the preparedness stage can ensure that the different activities required of the hospital, and possible external stakeholders, are consolidated to consider, priorities for the recovery of services, resources, programs, and people.

2. Goals and Objectives:

Goals and objectives could include:

• To ensure the safety and protection of staff, patients, and visitors during the recovery phase

• To facilitate and support the return of the hospital to normal operations as efficiently and effectively as possible

3. Approach: How will it be accomplished?

a. Designate a person to develop the plan. The expanded IMS organizational structure, has a functional role for recovery or demobilization. While this particular role may not be activated with an actual person, the function will be delegated and is considered integral to emergency management.

b. Consolidate the recovery activities of the plans under consideration. The plan may refer to a emergency colour response plan such as Code Red, or it may be as complex as a Pandemic Influenza, or severe weather plan. Where the plan is complex, and comprised of more than one sub-plans, it is important to consider and consolidate the activities.

c. Identify a process. It is important to clearly identify the criteria and process for how the hospital will de-activate the response plan, resources and functions that are no longer required to manage the emergency.

Furthermore, the plan may provide details about the different command functions that need to occur and how. For instance, the financial aspects includes record preservation, cost reconciliation and collecting possible insurance monies; the logistics function includes disposal, servicing, and reordering of equipment and supplies; the planning function includes ensuring staff needs are met through Employee Assistance Programs (EAP) and providing potentially time off where needed; and under operations is how to ramp-up services.

During the response phase, it will be through the business cycle that an Incident Action Plan is developed that will include recovery functions when the hospital is ready to enter into that phase, or components of the phase.

4. Evaluation and Feedback: How well does the plan meet the needs?

Once the emergency has been declared over, it is important to review the recovery plan and ensure that all components were considered and consistent with the emergency needs, and update accordingly. This can also be completed after a test or exercise of the emergency response plan.

Resources

Altered Standards of Care in Mass Casualty. Bioterrorism and Other Public Health Emergencies. Agency for Healthcare Research and Quality, U.S. Department of health and Human Services (April 2005) Publication No. 05-0043

Emergency Management Ontario - Response Resources. *http://www.emergencymanagementon-tario.ca/english/professionals/response/resources.html*

Chapter 8:
Exercises, Evaluation and Updating the Program

Chapter 8: Exercises, Evaluation and Updating the Program

Emergencies can happen anytime and anywhere, with the duration and potential magnitude unknown. To ensure that emergency management plans are effective, they must be tested and kept current through a systematic process that helps to identify weaknesses and close gaps.

> (i)
>
> The purpose of this chapter is to outline processes to test, evaluate, and update the hospital emergency management program and specific plans. Upon completion of this chapter you should understand:
>
> • The different types of exercises that the hospital can use to test the plan.
>
> • The importance of reviewing and revising plans within the context of the broader community plan.

Guiding Principles:

• No matter how comprehensive a plan is, if it is not reviewed and accepted by leadership and those who have to use it, it will not be helpful during an emergency.

• System dependencies require that the hospital develop and test plans within the context of the broader community emergency response plan.

• Plans should be regularly reviewed and updated, at least on an annual basis, or after every actual or simulated emergency event.

What You Need to Know

Roles and Responsibilities to Test

Under the *Emergency Management and Civil Protection Act*, municipal councils and ministers presiding over a provincial ministry and designated agencies, boards, commissions, and branches of government are required to develop and implement emergency management programs that consist of training programs and exercises for municipal and Crown employees, and other persons.[40]

> **Accreditation Canada holds the organization's leaders accountable for conducting exercises regularly to test the plan. Accreditation Canada Standards:**
>
> **11.5** The organization's leaders organize regular inspection, testing, and maintenance of fire detection, warning, and extinguishing systems to reduce the risk of fire.
>
> **11.8** The organization's leaders regularly test the organization's disaster and emergency plans with drills and exercises.
>
> **11.9** The organization's leaders use the results from post-drill analysis and debriefings to review and revise if necessary, its disaster and emergency plans and procedures.
>
> *Accreditation Program 2009*

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40 *Emergency Management and Civil Protection Act*, R.S.O. 1990, c.E.9, sections 2.1, 5.1, Service Ontario, *http://www.e-laws.ca*

Types of Exercises[41]

Practice tests and exercises can help determine the plan's effectiveness and reveal what changes should be made. There are many different types of exercise formats and techniques that can be used:

Orientation and Education Session:

Regularly scheduled sessions where the aim is to provide information, answer questions, and identify concerns.

Tabletop Exercises: Bring people together to think through and focus on understanding concepts; identifying strengths and weaknesses; raising awareness of expectations of the response stage; and testing staff knowledge and capabilities. Exercises generally involve senior management and other key people who would play a functional role in the response to an emergency situation. A scenario is outlined, and the participants dialogue about the hospital response, potential issues, and make decisions through a slower-paced problem-solving process.

Drills: These are coordinated tests used to evaluate a specific operation or function in a single department or unit. These can be considered to provide training on new equipment, test new policies and procedures, or to practice skills/capabilities.

Functional Exercises: Test multiple functions, activities, and departments with a focus on exercising plans, policies, procedures, and staff. These simulate operations by presenting realistic scenarios that require activation of emergency response plans.

Full-Scale Exercises: Simulates reality and involves multiple departments, organizations, regions, and potentially different levels of government. It is also the most costly. The reality of operations is considered through presenting realistic scenarios through the unfolding of events that require problem solving, critical thinking, and effective responses with 'real-time' resources, involving different stakeholders.

OHA Educational Services:

The OHA offers conferences and courses to health care professionals, to build competencies with regards to components of the Emergency Management Program and specific drills/exercises.

Incident Management System (IMS) for health care facilities aims to build awareness and familiarity of the IMS and how it can be used in hospitals to plan and respond to emergencies.

Emergency Exercise Design offers insight into the requirements of conducting emergency exercises in the workplace.

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41   Train, Exercise and Drill Collaboratively. Standing Together: An Emergency Planning guide for America's Communities.

Evaluating the Program and Emergency Response Plans

The emergency management program should be evaluated and policies, plans and procedures should be updated as required. Methods with which the program can be reviewed and evaluated include:

- Completing After Action Reports (AAR) following exercises or actual emergency events.

- Completing checklists from Canadian Standards Association, Accreditation Canada, or other disaster and emergency preparedness and response organizations.

- Completing a formal program evaluation.

It is important to understand for what purposes the evaluation is being done (e.g., gap analysis of program, resource allocation).

First, tests and exercises allow a hands-on analysis of the different elements of emergency planning and coordination such as communication, training, expansion of hospital surge capacity, competencies of personnel, availability of equipment and stockpiles of medical supplies. Where the exercise focuses on high-priority hazards that have been identified in the HIRA, immense learning can be obtained. Refer to the Toolkit Appendix Tools and Templates section for an example of an AAR.

Secondly, checklists allow for the organization to complete a gap analysis of where they currently are compared to standards, expectations, or best practices. Priorities can be set and assigned to staff, with target dates for completion. Refer to the Resources section of the chapter for examples of a disaster emergency preparedness checklist.

Finally, formal evaluation allows the organization to complete a thorough analysis of key program elements, processes, and plans using a variety of different methods including checklists to compare to best practices, surveys, and exercises and after action reports. Some suggested documentation that could be used includes:

- All written hospital policies, protocols and procedures.

- Documentation of the activities of the hospital's committee including:

  - Roster of participating individuals, departments, and agencies.

  - Schedule of meeting dates.

  - Prior meeting minutes or notes.

- Materials used and/or distributed in training for hospital staff.

- Schedules of planned trainings or strategic plans for training employees.

- Forms, checklists, or job action sheets used.

- Information on financial resources that the hospital provides for the program, and cost-benefit analyses.

Where surveys are used to help organize the data and focus the analysis, it is important to ground the evaluation with the goals and objectives set. For example, if it was to improve the hospital emergency management program by identifying its strengths and weaknesses, data can be organized into program strengths, weaknesses, and recommendations for improvement.

Basic analysis of "quantitative" information (for information other than commentary, e.g., ratings, rankings, yes's, no's, etc.) requires that you tabulate the information, i.e., add up the number of ratings, rankings, yes's, no's for each question and for ratings and rankings, consider computing a mean, or average, for each question. For example, go back to the HIRA and see if you have reduced the risk (probability and impact), determine the number of exercises/drills completed annually, the number of staff who attended an educational session, number of emergency colour code response plans that were developed or updated.

Basic analysis of "qualitative" information (respondents' verbal answers in interviews, focus groups, or written commentary on questionnaires):

1. Read through all the data.
2. Organize comments into similar categories, e.g., concerns, suggestions, strengths, weaknesses, similar experiences, program inputs, recommendations, outputs, outcome indicators, etc.
3. Label the categories or themes, e.g., concerns, suggestions, etc.
4. Attempt to identify patterns.

To share findings from an evaluation of the program, consider developing a brief report outlining the purpose of evaluation and what decisions will be guided by the findings, the background on program, the evaluation goals and methodology, results from the analysis and recommendations for next steps.

What You Need to Know

Develop a Test and Exercise Plan and Implement it

Elements of an Evaluation Plan:

1. Rationale: Why is it necessary?
2. Goals and Objectives: What is the desired outcome?
3. Approach: How will it be executed?
4. Evaluation and Feedback: Have the objectives been met?

1. Rational: Why is it necessary?

Accreditation Canada requires that the organization's leaders regularly test the disaster and emergency plans with drills and exercises.

2. Goals and Objectives: What is the desired outcome?

The Emergency Management Program has multiple components and plans with specific roles and responsibilities outlined to respond to specific emergency situations. Desired outcomes could include:

- To build awareness with staff and other stakeholders on the roles, responsibilities and elements of the plan.
- To execute specific plans and procedures under crisis conditions, and identify gaps in the planning and response structure.
- To ensure linkage with community and provincial response structure.

3. Approach: How will it be executed?

a. Designate a person to develop a test and exercise plan that will consider scenarios that will allow the hospital to execute specific plans and procedures. This person will work with the Hospital Emergency Preparedness Committee to determine broad goals and objectives of the plan, timelines, and resources.

b. Setting goals and objectives for the exercise. Work with the Emergency Preparedness Committee to set the scale, scope, type of exercise, work plan, and resources requirements of the exercise. Identify functional roles to be tested from those participating at staff or departmental levels, embedding the IMS into planning.

c. Develop the exercise scenario. The stages for development of an exercise scenario are research, drafting and integration, review, talk-through, and finalization. It is important to consider resources that are already in place, including those from the province, local public health or municipalities, and other hospitals that can be used. An exercise scenario may need to be tailored to meet the hospital's unique needs and environment.

d. Confirm the people who will be involved. This includes the following:

• **Moderators:** individual(s) to lead and moderate the exercise scenario, walking participants through it and ensuring it remains on track. This person will have detailed knowledge about the plan, and policies and procedures that have been developed to support the plan.

• **Experts:** Individuals to ensure the unfolding scenario is credible and in line with the broader response and could include internal and external people (i.e., infectious disease experts, MOHLTC, local public health unit).

• **Participants:** Individuals to respond to information provided and implement the plan.

• **Evaluators:** Individuals to determine the effectiveness of the response effort based on set evaluation criteria.

• **Observers:** Individuals who are knowledgeable about the plan can play the role of observer and document gaps, issues and successes throughout the exercise.

e. Set evaluation criteria to outline how the exercise will be evaluated to determine the level of success in meeting objectives.

f. Develop materials and organize logistics for the exercise, including:

• Exercise script and documentation of timed information release.

• Scenario time clock (disaster + minutes/hours).

• Participant job action sheets.

• Evaluator worksheets that allow the documentation of problems encountered and solutions identified.

• Location, supplies, food and water, etc.

g. Conduct the exercise. Develop a checklist to assist with the implementation of the exercise.

4. Evaluation and Feedback: Have the objectives been met?

a. Complete an AAR. Ensure that at the end of the exercise or real emergency events, people have the opportunity to reflect on their experiences with the drill or exercise, the process, and the outcomes. The debrief session should put emphasis on suggestions to improve the Emergency Management Plan. Refer to the Appendix Tools and Templates section for the After Action Report template.

Four levels of evaluation information gathered from staff in an AAR

1. Reactions
2. Learning (enhanced attitudes, perceptions or knowledge)
3. Changes in skills (applied the learning to enhance behaviours)
4. Effectiveness (improved performance because of enhanced behaviours)

Further, utilizing performance measures to help measure the effectiveness of meeting the goals and objectives set. Questions to consider include: Did the process, service or function actually perform the way it was supposed to? If so, how effective was it?

b. Complete a Disaster Checklist. Another method that will allow hospitals to assess their readiness to deal with disasters is the completion of a readiness checklist. Refer to the Resources section for the link to the Centre for Excellence in Emergency Preparedness tool to assist with this.

Things to consider:

• How can all levels of management be involved in evaluating and updating the plan?

• Does the plan reflect lessons learned from the drill and actual events?

• Does the plan reflect changes in the physical layout of the facility? Does it reflect any new facility processes that may occur?

• Have community agencies been briefed on the plan? Are they involved in evaluating the plan?

U.S. Federal Emergency Management Agency

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c. Consider completing a formal program evaluation. This should link to the corporate strategic objectives and performance measurement matrix for the organization. This can be completed a thorough analysis of key program elements, processes, and plans using a variety of different methods including checklists to compare to best practices, surveys, and exercises and ARR.

5. Update the Program and Plan.

Resources should be dedicated to updating the plan, outlining the iterative process of the emergency management program. The program can be assessed and updated at any point in the development phase, allowing for corrective action or the application of lessons learned. The key is not to get bogged down with the details and stray from the work plan and milestones set out for the program.

6. Plan Approval.

Milestones, phases, plans, and program elements should be approved internally by the Emergency Preparedness Committee, CEO, and board. Various components may also be approved by the municipality and other hospitals, such as instances where assumptions about the roles they will play during emergencies are outlined in plans.

Resources

Centre of Excellence in Emergency Preparedness
http://www.ceep.ca/resources_genplan.htm

Cosgrove et. Al, Group Debriefing Module in Evaluation of Hospital Disaster Drills: A Module-Based Approach. Agency for Healthcare Research and Quality Publication No. 04-0032; April 2004. Available online at *http:www.ahrq.gov/research/hospdrills*

Federal Emergency Management Agency
http://www.fema.gov/

Forging Partnerships to Eliminate Tuberculosis: A Guide and Toolkit
http://www.cdc.gov/tb/pubs/forge/pdfs/toolkit.pdf

Jenckes, M., Catlett, C. et al (2007) Development of evaluation modules for use in hospital disaster drills; American Journal of Disaster Medicine, Vol. 2, No. 2; 87-95
http://www.disastermedicinejournal.com

Legislative Issues & Analysis – Backgrounders, Analysis and Submissions
http://www.oha.com

Ontario Disaster Relief Program.
http://www.emergencymanagementontario.ca/english/government/ODRAP/programs.html

Service Ontario, e-laws (Collection of free legislation and regulations)
http://www.e-laws.gov.on.ca

Standing Together: An Emergency Planning guide for America's Communities
http://www.jointcommission.org/NR/rdonlyres/FE29E7D3-22AA-4DEB-94B2-5E8D507F92D1/0/planning_guide.pdf

http://www.managementhelp.org/evaluatn/fnl_eval.htm

Appendix 1:
Glossary

Appendix 1: Glossary

Abbreviation	Name
AAR	After Action Reports
CBRN	Chemical-Biological-Nuclear-Radiological
CEEP	Centre for Excellence in Emergency Preparedness
CEO	Chief Executive Officer
CHA	Canadian Healthcare Association
CMOH	Chief Medical Officer of Health
CPIP	Canadian Pandemic Influenza Plan
CSA	Canadian Standards Association
EAP	Employee Assistance Program
EMAT	Emergency Medical Assistance Team
EMCPA	Emergency Management and Civil Protection Act
EMO	Emergency Management Ontario
EMS	Emergency Medical Services
EMU	Emergency Management Unit
EOC	Emergency Operations Centre
FEMA	Federal Emergency Management Agency
FIRESCOPE	Fire Resources of Southern California Organized for Potential Emergencies
HEMC	Health Emergency Management Committee
HPPA	Health Protection and Promotion Act
HIRA	Hazard Identification & Risk Analysis
HR	Human Resources
ICS	Incident Command System
IMS	Incident Management System
IT	Information Technology
IPAC	Infection Prevention and Control

JHSC	Joint Health and Safety Committee
LHIN	Local Health Integration Networks
MEOC	Ministry Emergency Operations Centre
MOH	Medical Officer of Health
MOHLTC	Ministry of Health and Long-Term Care
NESS	National Emergency Stockpile Systems
NFPA	National Fire Protection Association
NGOs	Non-Government Organizations
NOHERT	National Office of Health Emergency Response Teams
OHA	Ontario Hospital Association
OHS	Occupational Health and Safety
OHPIP	Ontario Health Plan for an Influenza Pandemic
OHSA	Occupational Health and Safety Act
PCPIP	Provincial Coordination Plan for Influenza Pandemic
PEOC	Provincial Emergency Operations Centre
PHU	Public Health Unit
PPE	Personal Protective Equipment
SARS	Severe Acute Respiratory Syndrome
WHO	World Health Organization

Appendix 2:
Tools and Templates

Appendix 2: Tools and Templates

Table: The Impact of Legislation and Standards on the Hospital

What is this? A table to assist hospitals with understanding how different legislation, regulations and standards may impact the hospital during the preparedness and response stage.

Why is it useful? In advance of the emergency, outlining the different legislation in place to build familiarity on what is in place and implications for the hospital when implemented.

How to use it? List the different emergency legislation, regulations and standards, and consider the legal framework within which the hospital operates, adding any additional Legislative Acts. Consider some of the actions or activities that may occur as a result of the legislation, and the impact to the hospital. Then identify potential actions the hospital can take to mitigate or reduce the impact.

Legislation	How used during pandemic	Impact to Hospital	Actions to mitigate or reduce impact
e.g. Health Protection and Promotion Act	Powers authorizing the Minister of Health and Long-Term Care to procure, acquire or seize medications and supplies (subject to reasonable compensation) when regular supply and procurement processes are insufficient to address the needs of Ontarians	Hospital that stockpiled antivirals for prophylaxis may have their stockpile seized	Process for appealing

Template: Hospital Emergency Preparedness Committee Terms of Reference

What is this? An example of the Hospital Emergency Preparedness Committee Terms of Reference that outlines the roles and responsibilities of the committee. Used with permission of Hôpital regional de Sudbury Regional Hospital.

Why is it useful? Clearly outlines things such as the purpose, goals and objectives, decision-making process, accountability, and membership of the committee.

How to use it? For those hospitals that are in the early stages of developing an Emergency Preparedness Committee, the Emergency Preparedness lead will work with the Senior Leadership lead to confirm the roles, responsibilities, and membership of the Emergency Preparedness Committee. A draft Terms of Reference can be developed to guide the first meeting of the committee. For those hospitals who have an active committee, the Terms of Reference can help to keep the committee annual goals and objectives focused.

EMERGENCY PLANNING MANUAL
Hôpital régional de Sudbury Regional Hospital

ISSUED BY:	Emergency Planning Committee
AUTHORIZED BY:	Senior Vice President
ISSUE DATE:	08 April 2001
CATEGORY:	Terms of Reference

REVISION DATE: r- 12 February 2008

SUBJECT: **EMERGENCY PLANNING SITE COMMITTEES**

PURPOSE

The Emergency Planning Site Committees are comprised of membership from various programs and services of the specific hospital sites of the HRSRH. There are four Emergency Planning Site Committees: Kirkwood, Laurentian, Memorial, SJHC. Each site committee assists the HRSRH Emergency Planning Committee in achieving its purpose, goals and objectives. Each committee reviews emergency plans, providing input, feedback and areas for improvement to ensure plan effectiveness, with particular attention devoted to capture the physical and practice features of each site. Each committee also assists the HRSRH Emergency Planning Committee by monitoring the environment of respective sites to ensure the safety of all building occupants. The site committees also conduct drills and exercises to facilitate learning for staff, volunteers, physicians, students and associates while at the same time evaluate emergency plan responses for effectiveness.

OBJECTIVES

To ensure that processes exist to assist the HRSRH Emergency Planning Committee to minimize, mitigate and manage risks related to potential emergencies affecting the HRSRH, the Emergency Planning Committee will:

- participate in the regular review and revision of existing HRSRH emergency plans, policies and procedures and the development of new plans
- assist in identifying potential risks and hazards which may lead to potential emergency events at each site to the HRSRH Emergency Planning Committee
- seek out feedback and areas for improvement regarding the effectiveness of emergency plans for the HRSRH Emergency Planning Committee
- assist HRSRH Emergency Planning Committee in ensuring employees are informed and instructed in all emergency procedures:
  - by participation in conducting education sessions
  - through conducting regular drills
  - through various communication venues
- ensure that legislative standards are complied with at the applicable site
- promote best practice compliance to enhance the safety of all occupants at the applicable site
- assist in providing communication to all staff regarding the activities of the site committee as well as the HRSRH Emergency Planning Committee
- conduct fire drills at each hospital and offsite locations as per the Ontario Fire Code
- ensure consistency in the application of each emergency plan
- assist in the development of educational tools and drills for emergency plans, policies and procedures

DECISION MAKING PROCESS AND AUTHORITY

Decisions will be made by consensus of the attending members of each site committee with regard to the mandate and objectives of the committee. When decisions are required that exceed practical application or scope of the committee's mandate, the committee will seek approval from the HRSRH Emergency Planning Committee.

ACCOUNTABILITY AND RESPONSIBILITY

The Emergency Planning Site Committees are responsible to the HRSRH Emergency Planning Committee.
Minutes of all meetings will be recorded and distributed to the membership and to the HRSRH Emergency Planning Committee.

MEMBERSHIP

The Emergency Planning Site Committees are comprised of membership that includes but is not limited to:

- Building Services Site Coordinator
- Security
- Clinical Educator/Nurse Clinician
- Laboratory
- Diagnostic Imaging
- Clinical Program Representatives
- Housekeeping
- Non-clinical Program Representatives
- City of Greater Sudbury Fire Service Representative
- Community partners as required by site (eg. EMS – SJHC site)

The chair will be a minimum term of 1-2 years unless the member is re-located to another site. The chair will also be a member of the HRSRH Emergency Planning Committee and will report site activities at monthly meetings.

FREQUENCY OF MEETINGS

The Emergency Planning Site Committees will meet monthly, September to June, and at the call of the chairperson.

Template: Meeting Minutes[1]

What is this? A template to help keep useful and effective meeting minutes from meetings with the hospital pandemic planning committee and working group.

Why is it useful? Good documentation of meeting topics, decisions, and actions can provide valuable records for keeping the project focused and ensuring tasks get done.

How to use it? The key is not to record everything, but to consider the relevant communication and information needs of the groups.

• Utilize a meeting recorder to capture key points of discussion, issues, decisions, and action items.
• Confirm details related to decisions and action items at the end of the meeting.
• Distribute the draft minutes as soon as possible.

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1   Project Connections – Meeting Minutes Template. *http://www.projectconnections.com*

DATE _____

1. Attendance

Attending				

Absent				

2. Topics Discussed   a) Topic 1
       b) Topic 2
       c) Topic 3

3. Meeting Overview: Summary of major outcomes of meeting

4. Discussion: a) Topic 1:   [paragraph on what was discussed, key points and conclusions]
       b) Topic 2:   [paragraph on what was discussed, key points and conclusions]
       c) Topic 3:   [paragraph on what was discussed, key points and conclusions]

5. New Action Items

#	Owner	Required Action	Issued	Due Date	Status
1					
2					
3					
4					

6. New Issues

#	Issued	Issue	Action(s) Taken/Next Step(s)

7. New Decisions

#	Date Made	Decision	Reason(s) for Decision
1			
2			
3			
4			

Table: Hospital Emergency Preparedness Committee Members

What is this? A template to list the members of the Emergency Preparedness Committee.

Why is it useful? Tracks necessary participants and contact information (if needed).

How to use it? Determine the expertise required and ensure member representation.

Members	Name
Senior Administration	
Infection Control	
Occupational Health and Safety	
Risk Management	
Nursing Administration	
Medical Staff	
Emergency Department	
Laboratory	
Materials Management	
Communications	
Mortuary	
Staff Development	
Pharmacy	

Table: Community Emergency Preparedness Committee Contact List

What is this? A table to assist the community (and hospitals) with keeping up-to-date contact information on the stakeholders in the community involved in preparedness and response.

Why is it useful? In preparing for emergencies and during the response stage, it will ensure that contact information is correct and provide a helpful tool for the liaison officer to access and communicate with external stakeholders.

How to use it? Contact stakeholders and obtain information. Ensure to keep current.

Contact Information	Organization A	Organization B	Organization C	Organization D
Primary Contact Person				
Phone				
Fax				
Email				
Secondary Contact Person				
Phone				
Fax				
Email				

Table: Example of a Completed HIRA

What is this? An example of a completed HIRA, using the Centre for Excellence in Emergency Preparedness HIRA model. Used with permission of St. Mike's Hospital in Toronto.

Why is it useful? Provides those hospitals just starting out with further guidance on how to complete a HIRA.

How to use it? To be used along with the "What you Need to Do" section from the Toolkit HIRA chapter.

Leading with innovation
Serving with Compassion

ST. MICHAEL'S HOSPITAL

Risk can be defined as the product of probability of a hazard and the *potential* impact of the hazard. The probability of an event can be expressed as the likelihood of an event occurring within a given time period (i.e. in the next year). Some of the issues to consider for probability include; known factors, historical data, and statistics from other geographical areas/industries. When considering the impact, there are 3 different aspects that the hazard should be considered along; human impact, property impact, and business impact. The human impact assess the probability (if any) of injury, illness or death. The property impact assess what (if any) physical plant or equipment damage the hazard may cause, and finally the business impact assess what (if any) service disruptions the hazard may cause, or what kind of damage the hazard may cause to the public image of the organization. By combining the 3 different aspects of impact, an overall hazard rating can be derived.

The framework for this risk assessment was adopted from the Centre for Excellence and Emergency Preparedness (CEEP). It is intended to be a tool that can provide a realistic picture of the types of challenges that St. Michael's Hospital may face. It will also allow hospital administration to set priorities for planning purposes. The CEEP framework splits probability into 4 different categories as highlighted in Table 1. The impact of each hazard is also split into 4 different categories as highlighted in Table 2. Combining the probability rating and the impact rating produces the overall risk rating. The resulting matrix of the product of probability and impact is shown in Table 3.

Table 1 – Probability Rating

Probability Rating	Description	Detail
A	Highly Likely	Nearly 100% chance in the next year
B	Likely	Between 10 and 100% chance in the next year, or at least 1 chance in 10 years
C	Possible	Between 1 and 10% chance in the next year, or at least 1 chance in next 100 years
D	Unlikely	Less than 1% chance in the next 100 years

Table 2 – Impact Rating

Impact Rating	Description	Detail
4	Marginal	Normal level of functioning, or an increased level of service required
5-7	Serious	Facility can provide normal level of service with some assistance from within the local community/region; or, facility can provide a reduced level of service with normal resources
8-10	Critical	Facility can provide a normal level of service with assistance from outside the local community/region; or, facility can provide a minimal level of service with normal resources
11-12	Catastrophic	Facility requires provincial/federal assistance to provide services.

Table 3: Risk Matrix

Probability Rating / Impact Rating	A Highly Likely	B Likely	C Possible	D Unlikely
11-12: Catastrophic	High	High	Moderate	Low
8-10: Critical	High	High	Moderate	Low
5-7: Serious	Moderate	Moderate	Moderate	Very Low
4: Marginal	Low	Low	Very Low	Very Low

Hazard Assessment

Technological Events

Electrical Power Failure

The City of Toronto Office of Emergency Management (OEM) reports that the probability of electrical failure within the city is low. However, at St Michaels Hospital (SMH), engineering services indicated that power failures do occur at least once per year. Currently, at SMH there are 6 generators dedicated to providing emergency power in the event of a power failure. 2 Generators are 40 years old, 1 generator is 20 years old (but is being replaced), 1 is 15 years old, 1 is 10 years old and 1 is 3 years old. Most health facility standby generators are designed for short-term service and have performed very well when they are required to provide a few hours of service.[1] Hospital engineers who have experienced extended power outages reveal four major causes of generator failure: starting systems, fuel systems, fuel supply systems and engine cooling and lubrication source. Each generator at SMH is meant for short-term use (24 hours) and is tested weekly.

In older wings of the hospital (i.e. Shuter wing), the generators are designed to provide 100% power in the event of a power failure. However, in the newer wings (i.e. Cardinal Carter), only critical services are hooked up to generators. All nursing wards are now equipped with emergency kits that include items such as flashlights and extension cords. These emergency kits are inspected after every power failure, and annually in May before the summer season. From a research perspective, freezers in all research labs are connected to generators in order to preserve research work in the event of a power failure. Currently there are no agreements with any external suppliers of fuel to provide the hospital with fuel in the event of a prolonged power failure. In the case of a prolonged power failure, the hospital would be required to bargain with any number of fuel suppliers which could take an extensive amount of time. This time lapse could further put some patient services in jeopardy.

During a power failure, SMH would be able to provide a normal level of service with some assistance from the within the region or would be able to provide a reduced level of service on its own.

CEEP Probability Rating: B
CEEP Impact Rating: 6
CEEP Rating: Moderate

Natural Gas Leaks/Failures

There is no history of natural gas leaks or failures at SMH. Natural gas is used sparsely throughout the hospital (mainly in research laboratory areas). Currently, there are no procedures to deal with natural gas leaks/failures. A natural gas failure would have minimal impact on patient care. However, a natural gas leak has the potential to negatively affect the health and safety of patients and staff.

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[1] Chisholm D., & Nash H. (2003). *Health Facilities Management Newsletter.*

There is a small probability that a natural gas failure/leak will occur at SMH, and the impacts will be marginal.

CEEP Probability Rating: D
CEEP Impact Rating: 8
CEEP Rating: Moderate

Transportation
The City of Toronto OEM reports that there is a medium probability of transportation failure in the city. This would be due mostly to problems on major highways leading into the city. The OEM was also concerned about parking on city streets during snow events. This could result in additional traffic congestion. Traffic concerns have the potential to impact hospital services in areas such as fuel supply as traffic congestion could hinder the hospital's ability to receive essential supplies like fuel.

Although the likelihood of transportation problems/congestion is high, the potential impact on direct patient services at SMH is comparatively low.

CEEP Probability Rating: A
CEEP Impact Rating: 4
CEEP Rating: Low

Water Failure
The probability of this event according to Toronto OEM is low. Currently at SMH there are 4 water tanks to provide water within SMH. Although the probability of a water failure within SMH is low, the impact on patient care is serious as the hospital would only be able to provide a normal level of service with assistance from other organizations within the region. Currently, there are no procedures in place to specifically deal with a water failure.

CEEP Probability Rating: C
CEEP Impact Rating: 7
CEEP Rating: Moderate

Sewer System Failing
Toronto OEM rates the probability of this event occurring somewhere in the city as low. Engineering services indicates that at SMH, the sewer system has only failed once in the past and it is unlikely to happen in the near future. However, similar to a water failure, if it were to occur there could be a high disruption to patient services. There are no procedures in place to deal with an event like this (i.e. having septic tanks to divert waste to in the event of a sewer system failure).

CEEP Probability Rating: C
CEEP Impact Rating: 5
CEEP Rating: Moderate

Failure of Med. Gas system

According to Respiratory Therapy (RT), there is no history of the Medical Gas System failing at SMH. However, there are no current procedures in place to deal with such an occurrence. RT indicated that the system has recently been upgraded and improved and that there is a low probability that the system will fail.

If the medical gas system were to fail, the implications on patient care and safety would be fairly high. RT indicated that there are oxygen cylinders on every floor of the hospital, however critical care units (i.e. OR, ICU, ER) will be more vulnerable and have a higher demand for oxygen cylinders in the event of an emergency. Within the hospital, RT indicated that there are enough oxygen cylinders for short-term supply (i.e. 2-3 hours). However, in the event of a prolonged failure SMH would be reliant upon our vendor (Praxair) to provide the hospital with more supplies.

CEEP Probability Rating: D
CEEP Impact Rating: 7
CEEP Rating: Very Low

HVAC Failure

Engineering Services feel that there is a low probability that the Heating/Ventilation/Air Conditioning (HVAC) system will fail. All areas of the hospital do not have emergency power for the HVAC system. Only critical fans, such as those in operating rooms, or the main fresh air fans for the ICU, are connected to emergency power generators. In the event of an HVAC failure, there could be an impact on patient care as an HVAC failure may result in excessive temperatures in the hospital which could impact electrical equipment or even jeopardize the health of some patients.

CEEP Probability Rating: C
CEEP Impact Rating: 6
CEEP Rating: Moderate

IT Failure

According to the Information Technology (IT) department at SMH, there is not a high probability of an IT system failure. The hospital's network infrastructure and critical applications are designed as high availability systems which incorporate redundancies and fail-safes as deemed appropriate for the particular applications and systems. There is not an extensive history of severe IT failures at SMH. Recently, the phone system went down, however there is a proposal to upgrade the phone facilities and the physical space that houses the phone system. SMH houses and runs 2 redundant data centres in two different wings of the hospital. Having 2 data centres allows one data centre to provide backup for the other, should one of them fail. However, both data centre are susceptible to fire and flooding as any other area of the hospital. Should the data centre go down, valuable patient information could be lost which could have an impact on patient health and safety.

CEEP Probability Rating: C

CEEP Impact Rating: 6
CEEP Rating: Moderate

Fire (leading to a Building Evacuation) (Code Red, Code Green)
According to Engineering Services, fires occur often at SMH with varying degree. Most of them are small incidences with little or no repercussions. However, the potential for fire does exist and therefore the probability is high. The potential impact of a fire is high as well. The current Code Green evacuation procedures for SMH are in need of revision. The procedures are currently being revised by a specific subcommittee of the SMH Emergency Management Planning Committee (EMPC). One of the main issues to be resolved by this committee is the issue of who has the authority to order an evacuation of an area of the hospital as currently there is a lack of understanding on this issue.

CEEP Probability Rating: A
CEEP Impact Rating: 9
CEEP Rating: High

Internal Flooding
There are a variety of events that could cause internal flooding including fires, mishaps, construction, and even sewer system failures. According to Engineering Services, internal floods do occur at SMH during the course of a year. Internal flooding has the potential to disrupt patient services on a varying degree depending on where the flood occurs. Areas containing electrical equipment (i.e. IT rooms, phone rooms) are more vulnerable in a flood situation as if a flood were to occur in an area containing electrical equipment the ramifications could be fairly widespread. There is also a health and safety risk to patients due to infection control problems that accompany flooding such as mold in the wallboards.
Currently there are no department specific or hospital specific procedures to deal with flooding should it occur. It should also be noted that currently there is no specific designation (i.e. no colour code) to identify the occurrence of an "Internal Disaster" such as a flood.

CEEP Probability Rating: A
CEEP Impact Rating: 9
CEEP Rating: High

Hazardous Material Exposure (Code Brown)
(Internal/External - Non-Radiological)
Currently, there is a specific procedure to deal with hazardous material exposures and the code is in the process of being revised and updated by a subcommittee of the EMPC. According to engineering services, hazardous spills of non-radiological material do occur at least once per year. Although the incidents are not severe they do highlight the importance of the need to keep staff trained to respond to these events.
It should also be noted that there are no restrictions on the contents of any vehicles that drive in the vicinity of the hospital. Due to the hospital's close proximity to major

highways (i.e. Gardiner, DVP) there is an increased risk of external hazardous material exposure that could occur due to traffic accidents on these highways.

CEEP Probability Rating: B
CEEP Impact Rating: 9
CEEP Rating: High

(Internal/External – Radiological)
There is no history of events relating to exposure to hazardous radiological materials at SMH. Although the probability of such an event is low, the impact of an exposure to radiological materials on the hospital and patient services would be high. Therefore, it is important to keep an updated code as well as ensure that staff are trained to deal with such an event.

CEEP Probability Rating: C
CEEP Impact Rating: 10
CEEP Rating: Moderate

Unavailability of Supplies
In the event of an emergency it will be crucial for all departments to have adequate supplies for patients. Currently, all departments in the hospital do not have a just-in-time supply program as some of the medical carts on patient care wards have quotas of at least 2 weeks. During an emergency situation, it may be necessary for some departments to ration their supplies if they do not have enough. Currently there are no plans in place to indicate how supplies would be rationed in the event of an emergency. Rationing plans would dependent upon the nature of the emergency.
In the event of an emergency, the "just-in-time" supplies (medical supplies and other supplies such as linen) can be re-stocked within a 4 hour time period. It is not known how many days of stock is currently on the shelves at the hospital.

No CEEP Rating Given.

Loss of Elevators
The elevators at SMH are somewhat old (in terms of age), although some have undergone renovations. Currently there are no plans to replace any of the elevators in the hospital. In the case of a power failure, there are only a few elevators connected to emergency power. According to Engineering Services, there are a couple of occurrences of an elevator failing each year. The impact of the loss of an elevator on the hospital and patient services is low. It should be noted that the hospital does have agreements with external contractors to provide service to elevators outside of regular working hours.

CEEP Probability Rating: B
CEEP Impact Rating: 5
CEEP Rating: Moderate

Loss of Water Pump

The importance of water pumps to move water through the building for domestic use and also fire suppression is high. History shows the probability of these pumps failing is low. Critical water pumps are connected to emergency power.

CEEP Probability Rating: D
CEEP Impact Rating: 8
CEEP Rating: Low

Air Quality

City of Toronto OEM has indicated that the probability of poor air quality is high during certain times of the year. Poor air quality has the potential to negatively impact patients with certain medical conditions (i.e. asthma). Currently, there is no method to identify which patients may be more vulnerable than others. A Code Grey – External Air Exclusion policy will be developed by a subcommittee of the RGBG. Considerations for this policy may include what procedural steps should be taken from the physical plant relationship to control the unfiltered incoming air, and from the clinical side, what patients would be affected by poor air. Although SMH has the ability to control the air that comes into the building, there is no way to alert SMH staff in the event of extremely poor air quality to shutdown the external air fans. Currently, the Code Grey policy to deal with external air exclusion is being developed.

CEEP Probability Rating: B
CEEP Impact Rating: 4
CEEP Rating: Low

Human Events

Influx of people

In the event of an emergency, it is possible that there would be an influx of people into the hospital. For example, there may be an influx of family members coming to inquire about a patient, or there may be an influx of media representatives reporting on the event and trying to relay information to the public at large. It is also possible that the evacuation of another healthcare facility could cause an influx of people into SMH

According to Security Services at SMH, the probability of this event happening is low based on disasters that have happened in the community where people other than patients must seek shelter in the Hospital. There would be a moderate disruption to the facility should it happen due to the fact that the hospital usually runs at near capacity occupant loads. At the present time, preparedness for such an event does not exist.

CEEP Probability Rating: C
CEEP Impact Rating: 5
CEEP Rating: Moderate

Terrorist attacks

The Ontario Hospital Association released a report in 2002 in which a new category of emergency events labeled "terrorist attacks" was introduced. In the event of a terrorist attack, hospitals would play a vital role in the response as many emergency agencies will ultimately rely on hospitals in their own plans to deal with chemical, biological, radiological, and nuclear threats. The report also noted that terrorist events will force hospitals to become first responders in events dealing with CBRN threats and will need to work closely with the community at large. SMH is currently in the process of revising and updating its Code Brown CBRN code.

In the event of a large scale terrorist attack, the Ontario Ministry of Health would activate their Emergency Medical Assistance Team (EMAT). EMAT is a mobile, acute care field unit that consists of 20 negative pressure tents and is staffed by healthcare professionals. It features up to date medical equipment, a communications centre and its own supply of electricity and water. EMAT has the ability to be on-site anywhere in the province within 24 hours. Specifically for SMH, since the equipment for EMAT is stored at nearby Sunnybrook, should a terrorist attack occur in the near vicinity, it is plausible that EMAT could be setup much sooner. One of the main purposes of EMAT is to be in the field decontaminating patients before they come to hospitals. However, history has shown that only about 25% of patients who come into hospitals in emergency situations have gone through decontamination procedures.

In response to the growing threat of terrorism and the need for emergency planning, the Emergency Management Planning Committee (EMPC) was formed in early 2005 with the mandate of ensuring the creation and maintenance of an effective and sustainable corporate emergency management plan. Some of the issues this committee (and its sub-committees) must address include antibiotic stockpiling, evacuation procedures, and security measures during emergency events.

CEEP Probability Rating: C
CEEP Impact Rating: 12
CEEP Rating: Moderate

Patient Abduction

Security services at SMH indicated that there is low probability of a patient being abducted. Currently there are no procedural guidelines on dealing with this kind of situation (except Code Adam which deals specifically with infant abduction).

CEEP Probability Rating: D
CEEP Impact Rating: 6
CEEP Rating: Very Low

Civil Disturbance

Based on the geographical area of the hospital, the City of Toronto OEM indicates that there is a medium probability of a civil disturbance. This is mostly due to protest groups that may gather in the vicinity (i.e. Queens Park). There are no procedural guidelines in

place to deal with civil disturbances at present, however the impact of such an event on patient care could be high, especially in terms of restricting the flow of patients into and out of the hospital.

CEEP Probability Rating: C
CEEP Impact Rating: 6
CEEP Rating: Moderate

Missing Patients (Code Yellow)
Security services indicates that many of the reported cases of missing patients are actually cases where patients accidentally leave either on their own or with other people from an area of the hospital without reporting it to the proper staff. However, security services indicated that patients do go missing for extended periods of times sometimes. Although there is minimal risk to patient care at large, a missing patient is a serious event. This highlights the need to ensure that staff are properly trained in how to deal with missing patients (Code yellow). Currently, there is a subcommittee revising and updating Code yellow procedures.

CEEP Probability Rating: B
CEEP Impact Rating: 4
CEEP Rating: Low

Hostage Taking (Code Purple)
Security services indicate that there is a low probability of a hostage situation at SMH. However, there has been a hostage situation in the past. Currently there is no code purple policy, but one is being developed by a subcommittee of the EMPC. Although the probability of this event is low, there is a significant threat to the life of the hostage in this kind of situation.

CEEP Probability Rating: C
CEEP Impact Rating: 7
CEEP Rating: Moderate

Violent Persons (Code White)
Security services indicates that violent situations are not common and that majority of them are defused quickly and do not require any intervention by external agencies (i.e. Toronto Police). However, violent persons do pose a threat to the health and safety which highlights the importance of ensuring that staff are kept up to date on procedures on how to deal with violent persons . Currently there is a sub-committee of the EMPC working to revise and update Code White.

CEEP Probability Rating: C
CEEP Impact Rating: 7
CEEP Rating: Moderate

Bomb Threats (Code Black)
According to security services there have not been any serious bomb threats in recent history. In 2004, there were 2 reported bomb threats of which both were false alarms. However, bomb threats do happen and the impact on both the hospital and patient care, should the threat turn out to be true, are very high. Currently, there is a subcommittee of the EMPC who will be revising and updating code black.

CEEP Probability Rating: B
CEEP Impact Rating: 9
CEEP Rating: High

Epidemics
In light of the SARS epidemic, the City of Toronto OEM indicated that there is a medium probability of another epidemic occurring the city. Although much was done to improve SMH's ability to respond to an epidemic after the SARS epidemic in 2003 (i.e. constructing more negative-pressure rooms), any epidemic poses a large risk to patients and staff.

CEEP Probability Rating: B
CEEP Impact Rating: 12
CEEP Rating: High

External Disaster – Mass Casualties
In the event of a external disaster, it is possible that there will be mass casualties. Therefore it is important to consider how the hospital will respond in this sort of situation. Some of the issues that need to be considered include determining where can beds be easily opened in the case of mass casualties. Considering the fact that the hospital usually runs at full capacity, where/what beds can be opened through forced discharge. Discharge policies exist for specific areas of the hospital including the intensive care unit, the coronary care unit, the neurotrauma ICU and special care areas.

No CEEP Rating Given

Disaster Staffing
In the event that there is an external disaster with mass casualties, it is likely that the hospital will experience an influx of people which will require an increase in staffing. There is a need for clear information for where staff should go when (if) they are called back to the hospital for an emergency event. It is also important to maintain staff telephone lists and to ensure that staff are up to date with telephone fan out procedures.

No CEEP Rating Given

Natural Disasters
There are a number of natural disasters that could occur in the City of Toronto and vicinity based on the geographical location. Natural events like earthquakes are rare in Southern Ontario, or are minor occurrences that do not require any kind of emergency

response. Hurricanes are also rare in Southern Ontario. However, tornadoes have been known to occur and cause extensive damage in some areas of Southern Ontario. The winter season is known to occasionally bring severe snow/ice storms (such as the ice storm in Quebec in 1998). These storms, along with extreme outdoor temperatures can cause risks to the health and safety the population at large. Currently, no specific procedures exist to deal with natural disasters. In the case of a natural disaster, Code Orange would be initiated.

Earthquake
CEEP Probability Rating: D
CEEP Impact Rating: 11
CEEP Rating: Low

Hurricane
CEEP Probability Rating: D
CEEP Impact Rating: 11
CEEP Rating: Low

Tornado
CEEP Probability Rating: C
CEEP Impact Rating: 11
CEEP Rating: Moderate

Severe Storms
CEEP Probability Rating: A
CEEP Impact Rating: 7
CEEP Rating: Moderate

Extreme Temperatures
CEEP Probability Rating: A
CEEP Impact Rating: 4
CEEP Rating: Low
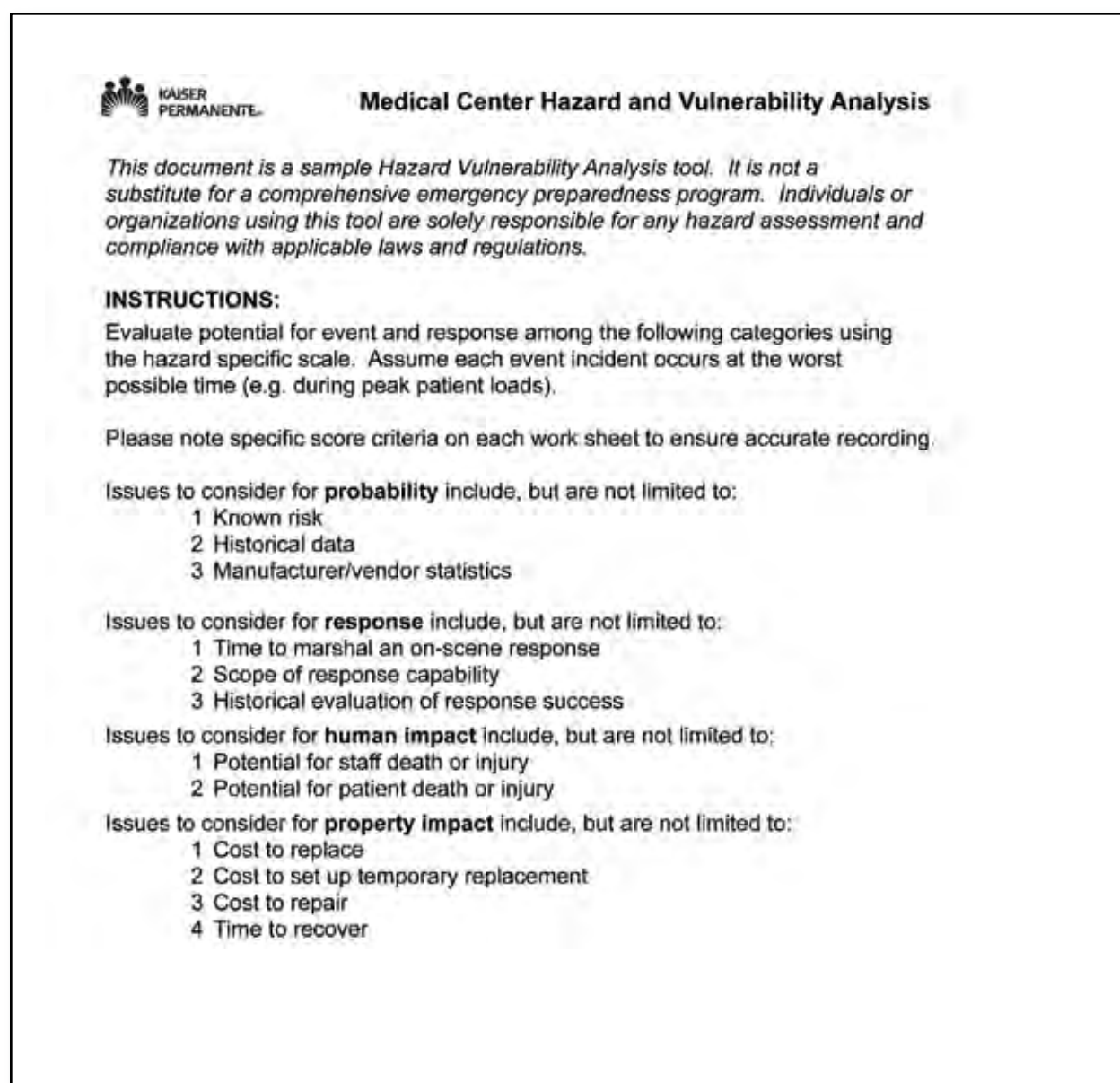
* Currently, there is no colour association for calling an "internal disaster"

Template: Examples of HIRA Models

What is this? Two examples of additional HIRA models are provided, the first is the Kaiser Permanente HIRA model with a sample of how the Kingston General Hospitals completed the HIRA for three of their sites. The second example is a model that can be considered for sites that wish to go into more detail regarding the HIRA, it was developed by Norm Ferrier and Lois Hales.

Why is it useful? Provides further detail on steps to complete the HIRA and examples of completed ones.

How to use it? Follow the step-by-step process outlined as follows.

KAISER PERMANENTE.   **Medical Center Hazard and Vulnerability Analysis**

This document is a sample Hazard Vulnerability Analysis tool. It is not a substitute for a comprehensive emergency preparedness program. Individuals or organizations using this tool are solely responsible for any hazard assessment and compliance with applicable laws and regulations.

INSTRUCTIONS:

Evaluate potential for event and response among the following categories using the hazard specific scale. Assume each event incident occurs at the worst possible time (e.g. during peak patient loads).

Please note specific score criteria on each work sheet to ensure accurate recording.

Issues to consider for **probability** include, but are not limited to:

      1 Known risk
      2 Historical data
      3 Manufacturer/vendor statistics

Issues to consider for **response** include, but are not limited to:

      1 Time to marshal an on-scene response
      2 Scope of response capability
      3 Historical evaluation of response success

Issues to consider for **human impact** include, but are not limited to:

      1 Potential for staff death or injury
      2 Potential for patient death or injury

Issues to consider for **property impact** include, but are not limited to:

      1 Cost to replace
      2 Cost to set up temporary replacement
      3 Cost to repair
      4 Time to recover

Issues to consider for **business impact** include, but are not limited to:
1 Business interruption
2 Employees unable to report to work
3 Customers unable to reach facility
4 Company in violation of contractual agreements
5 Imposition of fines and penalties or legal costs
6 Interruption of critical supplies
7 Interruption of product distribution
8 Reputation and public image
9 Financial impact/burden

Issues to consider for **preparedness** include, but are not limited to:
1 Status of current plans
2 Frequency of drills
3 Training status
4 Insurance
5 Availability of alternate sources for critical supplies/services

Issues to consider for **internal resources** include, but are not limited to:
1 Types of supplies on hand/will they meet need?
2 Volume of supplies on hand/will they meet need?
3 Staff availability
4 Coordination with MOB's
5 Availability of back-up systems
6 Internal resources ability to withstand disasters/survivability

Issues to consider for **external resources** include, but are not limited to:
1 Types of agreements with community agencies/drills?
2 Coordination with local and state agencies
3 Coordination with proximal health care facilities
4 Coordination with treatment specific facilities
5 Community resources

Complete all worksheets including Natural, Technological, Human and Hazmat.
The summary section will automatically provide your specific and overall relative threat

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SUMMARY OF MEDICAL CENTER HAZARDS ANALYSIS

	Natural	Technological	Human	Hazmat	Total for Facility
Probability	0.00	0.00	0.00	0.00	0.00
Severity	0.00	0.00	0.00	0.00	0.00
Hazard Specific Relative Risk	0.00	0.00	0.00	0.00	0.00

Hazard Specific Relative Risk to Medical Center

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(y-axis: Relative Threat to Facility, 0.00 to 1.00; x-axis categories: Natural, Technological, Human, Hazmat)

Probability and Severity of Hazards to Medical Center

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(y-axis: Relative Impact on Facility, 0.00 to 1.00; x-axis categories: Probability, Severity)

This document is a sample Hazard Vulnerability Analysis tool. It is not a substitute for a comprehensive emergency preparedness program. Individuals or organizations using this tool are solely responsible for any hazard assessment and compliance with applicable laws and regulations.

© 2001 Kaiser Foundation Health Plan, Inc.   Hazard & Vulnerability Analysis_kaiser_model.xls Summary

HAZARD AND VULNERABILITY ASSESSMENT

SCORE	PROBABILITY Likelihood this will occur (0=N/A 1=Low 2=Moderate 3=High)	HUMAN IMPACT Possibility of death or injury (0=N/A 1=Low 2=Moderate 3=High)	PROPERTY IMPACT Physical losses and damages (0=N/A 1=Low 2=Moderate 3=High)	BUSINESS IMPACT Interruption of services (0=N/A 1=Low 2=Moderate 3=High)	PREPARED-NESS Plan Development (0=N/A 1=High 2=Moderate 3=Low or none)	INTERNAL RESPONSE Availability of Staff & Resources (0=N/A 1=High 2=Moderate 3=Low or none)	EXTERNAL RESPONSE LOU's, Community Involvement (0=N/A 1=High 2=Moderate 3=Low or none)	Relative threat* 0-100%	Target 0-100%
Fire	3	3	3	3	1	2	1	72%	67%
Evacuation (Horizontal/Vertical)	3	2	1	3	2	2	1	61%	50%
Evacuation (Facility)	1	3	3	3	3	2	1	22%	17%
Mass Casualty (Reception)	2	2	1	3	3	3	3	56%	17%
Mass Casualty (CBRN)	0	0	0	0	0	0	0	0%	0%
Mass Casualty (Pandemic)	2	3	1	3	3	3	3	59%	37%
Epidemic /Outbreak	3	3	1	3	2	1	2	67%	56%
Missing Resident	3	3	1	1	1	1	1	44%	44%
Bomb Threat	1	1	1	3	2	2	1	19%	15%
Bomb Threat (Explosion)	1	3	3	3	2	2	1	26%	22%
Violent Person	3	2	1	2	1	1	1	44%	44%
Adult Cardiac Arrest	2	3	1	2	1	1	1	33%	33%
Pediatric Cardiac Arrest	0	0	0	0	0	0	0	0%	0%
Chemical Spill	1	1	2	2	2	2	2	20%	15%
External Air Exclusion	2	3	1	3	2	2	2	48%	37%
Hostage Taking	1	2	1	3	3	2	2	24%	17%
Infant/Child Abduction	1	3	1	3	3	3	3	30%	19%
Inmate Escape	0	0	0	0	0	0	0	0%	0%
Medical Emergency	3	3	1	2	1	1	1	50%	50%
Flood (Internal)	2	1	3	2	2	2	2	44%	33%
Flood (External)	1	1	1	1	3	3	3	22%	11%
Loss of Power	2	2	1	1	1	1	2	30%	26%
Loss of Water	1	1	2	3	2	2	2	22%	17%
Loss of Communications	1	1	2	3	1	2	2	20%	17%
Labour Action	1	1	1	3	1	2	2	19%	15%
AVERAGE SCORE	0.53	0.63	0.44	0.73	0.56	0.56	0.52	31%	

RISK = PROBABILITY * SEVERITY
0.31   0.53   0.57

29-May-06

HAZARD AND VULNERABILITY ASSESSMENT

	PROBABILITY	SEVERITY = (IMPACT - PREPAREDNESS)						RISK	
		HUMAN IMPACT	PROPERTY IMPACT	BUSINESS IMPACT	PREPARED-NESS	INTERNAL RESPONSE	EXTERNAL RESPONSE		
	Likelihood this will occur	Possibility of death or injury	Physical losses and damages	Interruption of services	Plan Development	Availability of Staff & Resources	LOU's, Community Involvement	Relative threat*	Target
SCORE	0 = N/A 1 = Low 2 = Moderate 3 = High	0 = N/A 1 = Low 2 = Moderate 3 = High	0 = N/A 1 = Low 2 = Moderate 3 = High	0 = N/A 1 = Low 2 = Moderate 3 = High	0 = N/A 1 = High 2 = Moderate 3 = Low or none	0 = N/A 1 = High 2 = Moderate 3 = Low or none	0 = N/A 1 = High 2 = Moderate 3 = Low or none	0 - 100%	0 - 100%
Fire	3	3	3	3	1	1	1	67%	67%
Evacuation (Horizontal/Vertical)	3	1	0	3	2	2	3	61%	39%
Evacuation (Facility)	1	2	0	3	3	2	3	20%	11%
Mass Casualty (Trauma)	1	1	0	3	3	2	3	22%	13%
Mass Casualty (CBRN)	1	3	0	1	3	1	3	20%	13%
Mass Casualty (Pandemic)	3	3	1	3	3	3	3	89%	56%
Epidemic /Outbreak	2	3	1	3	1	2	2	44%	37%
Missing Resident	3	1	1	1	2	2	1	44%	33%
Bomb Threat	1	1	1	3	2	2	1	19%	15%
Bomb Threat (Explosion)	1	3	3	3	2	2	2	28%	22%
Violent Person	3	3	2	2	1	1	0	56%	56%
Adult Cardiac Arrest	3	0	0	1	1	1	0	17%	22%
Pediatric Cardiac Arrest	1	0	0	1	0	0	0	2%	7%
Chemical Spill	2	3	2	3	2	2	2	52%	41%
External Air Exclusion	1	2	2	3	3	2	2	26%	19%
Hostage Taking	2	3	1	3	2	2	1	44%	37%
Infant Abduction	0	3	1	3	0	0	0	0%	19%
Inmate Escape	1	3	1	3	2	2	1	22%	19%
Medical Emergency	3	3	0	1	1	1	0	33%	39%
Flood (Internal)	3	3	3	3	3	2	3	94%	67%
Flood (External)	1	1	3	3	3	2	3	28%	19%
Loss of Power	2	1	3	3	2	2	3	52%	37%
Loss of Water	1	2	3	3	3	3	3	31%	20%
Loss of Communications	1	3	3	3	3	3	0	28%	22%
Labour Action	1	1	2	3	2	2	0	19%	15%
AVERAGE SCORE	0.59	0.69	0.48	0.85	0.57	0.56	0.53	37%	

RISK = PROBABILITY * SEVERITY

0.37   0.59   0.64

11-May-06

HAZARD AND VULNERABILITY ASSESSMENT

	PROBABILITY	SEVERITY = (IMPACT - PREPAREDNESS)						RISK	
Providence Continuing Care Centre *Sisters of Providence of St. Vincent de Paul*		HUMAN IMPACT	PROPERTY IMPACT	BUSINESS IMPACT	PREPARED-NESS	INTERNAL RESPONSE	EXTERNAL RESPONSE		
	Likelihood this will occur	Possibility of death or injury	Physical losses and damages	Interuption of services	Plan Development	Availability of Staff & Resources	LOU's, Community Involvement	Relative threat*	Target
SCORE	0 = N/A 1 = Low 2 = Moderate 3 = High	0 = N/A 1 = Low 2 = Moderate 3 = High	0 = N/A 1 = Low 2 = Moderate 3 = High	0 = N/A 1 = Low 2 = Moderate 3 = High	0 = N/A 1 = High 2 = Moderate 3 = Low or none	0 = N/A 1 = High 2 = Moderate 3 = Low or none	0 = N/A 1 = High 2 = Moderate 3 = Low or none	0 - 100%	0 - 100%
Fire	3	3	3	3	1	2	1	72%	67%
Evacuation (Horizontal/Vertical)	1	2	1	2	3	2	2	22%	15%
Evacuation (Facility)	1	2	2	3	3	2	3	24%	15%
Mass Casualty (Reception)	2	2	1	3	3	3	3	56%	33%
Mass Casualty (CBRN)	0	0	0	0	0	0	0	0%	0%
Mass Casualty (Pandemic)	3	3	3	3	2	2	2	83%	67%
Epidemic /Outbreak	1	2	1	2	1	1	1	15%	15%
Missing Resident	3	3	0	2	3	2	2	67%	44%
Bomb Threat	1	1	1	3	2	2	1	19%	15%
Bomb Threat (Explosion)	1	3	3	3	3	2	2	30%	22%
Violent Person	3	2	1	1	2	2	1	50%	39%
Adult Cardiac Arrest	3	3	1	1	1	1	1	44%	44%
Pediatric Cardiac Arrest	0	0	0	0	0	0	0	0%	0%
Chemical Spill	1	1	1	1	1	2	2	18%	11%
External Air Exclusion	1	2	2	3	3	2	3	28%	19%
Hostage Taking	1	3	1	3	3	3	1	26%	19%
Infant/Child Abduction	1	3	0	1	3	2	2	20%	13%
Inmate Escape	1	3	1	3	3	2	2	26%	19%
Medical Emergency	3	3	1	1	1	1	1	44%	44%
Flood (Internal)	2	1	3	2	1	2	2	41%	33%
Flood (External)	1	1	3	3	2	2	3	26%	19%
Loss of Power	2	2	3	3	1	2	1	44%	41%
Loss of Water	1	3	3	3	1	1	2	24%	22%
Loss of Communications	1	2	1	3	2	2	2	22%	17%
Labour Action	1	1	2	3	3	3	3	28%	17%
AVERAGE SCORE	0.51	0.68	0.51	0.73	0.64	0.60	0.57	32%	

RISK = PROBABILITY * SEVERITY
  0.32   0.51   0.62

15-May-06

The Process

Step One: Creating the Event List

The first stage in the creation of a HIRA for any reason is to create a list of all of the events that one believes have at least some potential for occurrence. The list should consider, as separate categories, those external events which generate surge on the demand for services, those external events with the potential to disrupt supply chains and otherwise disrupt hospital operations, and those internal events with the potential to disrupt hospital operations. List as many as you can think of; the list should be exhaustive at this point, as this is the only way of ensuring that no potential event is inadvertently overlooked.

Step Two: Event Elimination

As a next step, review the list and discard any event which simply has no potential for occurrence. These may be due to the physical characteristics of the area where the hospital is situated (e.g. forest fire in downtown Kingston). It may also be due to the physical location of the hospital in question (e.g. flood risk in a hospital on a hill). It may also be that the risk in question does not occur in that location because of the manner in which the hospital operates (e.g. laboratory fire in a hospital without a laboratory on the premises). Be practical, if an event can't occur in your location, there is little point to wasting time considering it further. Once all of the impossible events have been discarded, the next step is to evaluate the balance of events in terms of the frequency of their occurrence.

Step Three: Ranking Frequency

The process for evaluating frequency of occurrence is straightforward. Each event will be researched in order to determine the number of times that this event has occurred in the past, in the community and facility under review, in the province and other Ontario hospitals, and elsewhere. It is also important to determine how recently the event has occurred; circumstances sometimes change, and an event which occurred with some frequency in the distant past may no longer be as likely to occur because of changes in procedures, land use or technology. To illustrate, the crash of a passenger train may be less likely to affect the hospital, even if it has experienced such an event in the past, because passenger train service has been curtailed in many areas. The use of this process will allow the researcher to gain a better understanding of the actual probability of each event, given the circumstances that exist today. Each event is assigned a numeric score, based upon the best estimate of probability of occurrence in the current set of circumstances.

Ranking Frequency

Score	Characteristics
1	An event that has occurred somewhere in the world, or at least has some realistic potential for occurrence at your hospital.
2	An event that has occurred somewhere in Canada, at some point in history, and has at least some potential for occurrence in your own hospital.
3	An event that has occurred somewhere in Canada within the past ten years, and has at least some potential for occurrence in your own hospital.
4	An event that has occurred within the past ten years somewhere in Ontario, or has affected an Ontario hospital.
5	An event that has occurred within the past five years somewhere in Ontario, or has affected an Ontario hospital.
6	An event that has occurred within the past year somewhere in Ontario, or has affected an Ontario hospital.
7	An event that has occurred within the past ten years in your own community or hospital.
8	An event that has occurred within the past five years in your own community or hospital.
9	An event that has occurred within the past year in your own community or hospital.
10	An event which occurs with great frequency (weekly or monthly) within your own community or hospital.

Step Four: Ranking Impact

Each event is then examined once again, in terms of the possible impacts affecting the hospital, were it to occur. For the purpose of simplicity, use a 'worst-case' scenario; this is completely appropriate, since it is always better to over-prepare or over-respond to a given emergency, than to under-prepare or under-respond, and then have to 'catch up'. Each of the five major types of risk exposure (loss of life, degradation of service, physical plant, financial loss and damage to reputation) should be examined and ranked independently. Each type of exposure has a corresponding impact characteristic for the impact score. These will be identified as follows:

> 1 – Loss of Life
> 2 – Degradation of Service
> 3 – Physical Plant
> 4 – Financial Loss
> 5 – Damage to Reputation

It should be noted that achieving different scores for each type of risk exposure during this ranking exercise is not only normal, it is expected. To illustrate, a significant fire might rank very highly in terms of impact in the Loss of Life category, but with a significantly lower rating in the Financial Loss category, because of the hospital's fire insurance coverage.

Ranking Impact

Score   **Characteristics**

1   (1) There are no deaths or injuries. (2) Critical services remain uninterrupted. (3) Minor clean-up of affected areas is required. (4) There are no financial losses. (5) There is no damage to the hospital's reputation.

2   (1) There are small numbers of minor injuries, with no lost-time incidents. (2) The operating procedures for critical services may require adjustment, but will not be interrupted significantly. (3) Extensive clean-up of affected areas by staff is required. (4) Financial losses are less than $1,000. (5) Staff and public complaints begin to occur.

3   (1) An increased number of minor injuries, with some lost-time incidents. (2) Critical services may be disrupted for a day or two, but will continue to function. (3) Professional clean-up services for affected areas are required. (4) Financial losses are less than $10,000. (5) Staff and public complaints begin to escalate.

4   (1) One or more serious injuries occur in patients or staff. (2) Critical services are disrupted for a week or more. (3) Replacement of furniture or other daily-use items is required in addition to clean-up. (4) Financial losses are less than $100,000. (5) Staff and public complaints result in grievances and/or local news media coverage.

5   (1) Less than ten serious injuries occur in patients or staff. (2) Critical services are disrupted for two weeks or more. (3) Minor physical repairs are required, in addition to clean-up and furniture replacement. (4) Financial losses are less than $500,000. (5) The local news media begins to take serious notice of the 'problems' at the hospital.

6   (1) 10-20 serious injuries occur in patients or staff. (2) Critical services are disrupted for a month or more. (3) Major reconstruction of a single area is required, or a single piece of critical infrastructure must be replaced. (4) Financial losses are less than $1,000,000, but are covered by insurance. (5) Local media coverage escalates and/or local elected officials begin to express serious concern about the hospital's operations.

7   (1) There are no deaths, but large numbers of people are seriously injured. (2) The ability to provide a critical service will be lost for more than three months. (3) The hospital will require reconstruction of a single key service delivery area, or a single element of critical infrastructure. (4) While recovery of financial losses will occur; it may take a year or more to settle lawsuits, insurance claims, etc.. (5) Media coverage at a national or regional level creates public avoidance in the community and difficulty in fundraising lasting more than three months.

8   (1) 1-4 people are killed. (2) The ability to provide a critical service will be lost for more than six months. (3) The hospital will require reconstruction of multiple key service delivery areas, or multiple elements of critical infrastructure. (4) While recovery of financial losses is possible, it may take a year or more to achieve. (5) Media coverage at a national or regional level creates public avoidance in the community and difficulty in fundraising lasting more than six months.

9   (1) 5-10 people are killed. (2) The ability to provide a critical service will be lost for more than one year. (3) The hospital will require extensive reconstruction in order to provide services at pre-event levels. (4) The hospital will sustain financial losses from which it will be difficult to recover. (5) Media coverage at a national or regional level creates public avoidance in the community and difficulty in fundraising lasting more than one year. The name of the hospital is nationally associated with the event.

10   (1) More than ten people are killed. (2) The ability to provide a critical service will be permanently lost. (3) The entire physical plant of the hospital will be destroyed. (4) The hospital will sustain financial losses on a scale from which it will be impossible to recover. (5) Adverse media coverage on a national or international scale results in long-term public avoidance and the inability to raise donations. The name of the hospital is internationally associated with the event.

Step Five: Creating a Risk Profile

Once the basic information about the particular type of hazard has been gathered and risk calculated, it is time to create a formal risk profile. That profile will permit the emergency manager to gather all of the relevant information together in a single location for analysis. It will also create a permanent record describing precisely how each type of risk was evaluated, in order to help to satisfy the 'due diligence' requirements of your emergency plan. These profiles will not be included in the main body of the plan, but may be added to the plan as annexes. Once created, these annexes, like the HIRA itself, should be reviewed periodically and amended as required, in order to reflect changing situations, and to ensure that your emergency preparedness process remains as current as possible. While such profiles can take many forms, the minimum information required is as follows:

Name of the Organization	**Location**
Date of Creation	**Author**
Due Date for Review	**Type of Hazard**
Hazard Characteristics	**History of Occurrence**
Areas of Concern	**Risk Rating**
Mitigation Actions	**Preparedness Actions**

Step Six: Scoring Risk

Once scoring for both frequency and impact have been completed, these two scores can then be multiplied together to arrive at a total Risk Score for this particular type of event. When using the suggested model, this risk score will be somewhere in a range from 1-100. Risk scores may be assigned for each particular type of risk exposure for each hazard event. The impact scores for the five major types of risk exposure can also be added, and then multiplied by the frequency score, in order to provide a more 'global' ranking for each particular type of risk. Take care though, to continue to examine each of the potential risk exposures individually, so that your understanding of risk exposure is complete. Once this score has been calculated, it will fall into one of three possible categories, as described below.

100	90	80	70	60	50	40	30	20	10
90	81	72	63	54	45	36	27	18	9
80	72	64	56	48	40	32	24	16	8
70	63	56	49	42	35	28	21	14	7
60	54	48	42	36	30	24	18	12	6
50	45	40	35	30	25	20	15	10	5
40	36	32	28	24	20	16	12	8	4
30	27	24	21	18	15	12	9	6	3
20	18	16	14	12	10	8	6	4	2
10	9	8	7	6	5	4	3	2	1

80-100 Scores – A regular occurrence with potentially serious and damaging impacts. Should be viewed as a top priority. Requires immediate mitigation and planning for emergency response.

50-75 Scores - Infrequent but serious, or frequent but relatively less serious cumulative impact potential. Should be addressed for mitigation and resources planning from highest to lowest score, as funding and resources are available.

20-49 Scores - Low impact potential event. Assess mitigation and preparedness cost in relation to other priorities.

1-19 Scores – Infrequent event with minimal or no significant potential effects. The lowest priority for mitigation and planning purposes. The planning activities could be deferred but should not be ignored.

Step Seven: Modeling Individual Risk Exposures

Human beings often have difficulty in processing and comparing information from tables of numbers. For this reason, it may help to display the risk exposures for each type of hazard graphically. This use of graphs and charts can enable the reader to quickly grasp the variations in risk exposures, and to compare the exposures generated by one type of hazard as opposed to another. A simple illustration of this process is included below:

Hospital Fire - Risk Exposure

Legend: Loss of Life, Service Degradation, Physical Plant, Financial Loss, Reputation Damage

MCI - Risk Exposure

Legend: Loss of Life, Service Degradation, Physical Plant, Financial Loss, Reputation Damage

Step Eight: Ranking Risk Exposures

Once all hazards and their associated risks have been scored, the results must be available for comparison. It is this process of comparison that will help to determine and set priorities for both planning and preparedness activities. The simplest method of doing this is to simply create a list of all of the hazards that were identified at the beginning of the process, and to rank them by their risk scores from highest to lowest. Those with the highest rankings will receive immediate priority for mitigation, planning and preparedness activities, with those lower ranked items being addressed individual as time and resources permit. By using this model, one may set priorities for plan development, resource acquisition, and staff training activities. As with individual risk exposures, this information can also be made more accessible for the reader by means of the use of graphs. Some simple examples are included below:

Risk Ranking	
MCI	48
Hazmat	40
Fire	36
Flood	20
Earthquake	6
Etc.	

Ranking of Internal Risk Exposure
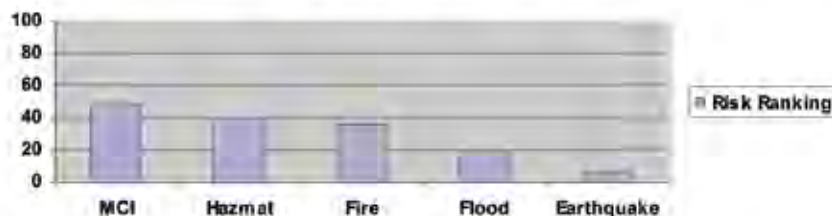
Step Nine: Assessing Potential Impacts

Armed with a good understanding of the types of hazards that are likely to occur, and the risk exposures that could result from them, it is time to focus very specifically on the hospital. Examine each type of potential risk in the context of hospital operations. Determine whether there exist specific areas of vulnerability within both the hospital's physical structure and business operations. Attempt to determine how and why these vulnerabilities occur, and what mitigation measures have already been put in place. When examining the existing mitigation measures, it may be helpful to attempt to judge whether those measures are likely to be effective, and also whether the mitigation measures themselves might create potential impacts on other critical aspects of operations. This is an often overlooked aspect of managing risk. To illustrate,

a hospital has a policy to recall staff to work, in the event of a Code Orange. On the surface, this seems like a suitable mitigation measure for the management of the external surge of patients that is occurring. If, on the other hand, that policy states that staff may only be recalled on the authority of the Administrator on Call, who must be physically present on site, then staff may have to be drawn solely from other patient care areas, until such time as the Administrator on Call is physically on site. While this mitigation measure is effective at managing the surge of new patients, it has the potential to create another problem in managing the care of existing patients. Good mitigation measures solve problems; they don't fix one problem by creating another.

Step Ten: Develop a Risk Management Strategy

With each hazard, risk exposure, impact, and prior mitigation measure identified, it is now time to begin to formulate a strategy for the management of each type of risk exposure. While this is not strictly speaking a part of the HIRA process, it is a logical next step. As previously stated, there are four basic options for the management of risk in a hospital; avoidance, mitigation, transference, and acceptance. Begin with the most highly ranked risks and work down the list, as the resources for doing so become available. Determine which risk management option will work best for each type of risk exposure, and what form that option will take. Always be careful to think the risk management strategies through thoroughly, so that the solutions do not create other problems. It is likely that as this process progresses, lower ranking risk exposures may also be mitigated effectively by those measures put in place to address higher ranking exposures.

Table: List of Hazards

What is this? A list of some of the types of hazards that the hospital can be subjected to that may impact operations and the safety of patients, staff, and visitors.

Why is it useful? Helps to raise awareness about the types of external and internal hazards that may impact the hospital, and that the Emergency Preparedness Committee may have to prioritize mitigation and preparedness activities for.

How to use it? The table provides some of the types of hazards which may impact the hospital or local community. As part of the due diligence, the hospital should obtain a copy of their local municipal HIRA and review the provincial HIRA that the Ministry of Health and Long-Term Care and Emergency Management Ontario have developed.

Type of hazards	Examples	Possible Impact to Hospital
Natural Hazards	Atmospheric Hazards (tornadoes, blizzards, lightning, hurricane, earthquake, severe weather, hailstorms, windstorms, etc.); Geological Hazards (floods, erosion, drought, water quality, etc.).	Healthcare facility damage, loss, or failure
Technological Hazards	Building/Structural collapse (facility), critical infrastructure failure, energy emergencies (supply), explosions/fires, electrical failure, Loss of HVAC, Loss of power, utility failure, safety system failure, computer system failure, emergency notification system failure.	
Hazardous Materials events	In-facility hazardous spill (i.e. chemical), external hazardous event.	
Human Caused Hazards	Civil disorders, sabotage, terrorism, war, mass fatalities/mass casualties.	Healthcare facility capacity overload
Human Health Emergencies and Epidemics	Droplet/Contact spread diseases (human influenza, meningitis, SARS), Airborne diseases (tubercolosis, smallpox, anthrax, plague), Foodborne/Waterborne diseases (campylo bacter, salmonella, e.coli, giaria) Zoonotic & Vectorborne (antrax, plague, west-nile, avian influenza), Bloodborne diseases (hepatits B, etc.)	
	Outbreaks of infectious disease (Pandemic Influenza).	
Hazardous materials	Fixed site, transportation (road, rail, air, marine), nuclear facility emergencies, radiological emergencies, mine emergencies (operating/abandoned).	

Type of hazards	Examples	Possible Impact to Hospital
Human Health Emergencies and Epidemics	Droplet/Contact spread diseases (human influenza, meningitis, SARS), Airborne diseases (tubercolosis, smallpox, anthrax, plague), Foodborne/Waterborne diseases (campylo bacter, salmonella, e.coli, giaria) Zoonotic & Vectorborne (antrax, plague, west-nile, avian influenza), Bloodborne diseases (hepatits B, etc.)	Shortage of Health Human Resources
	Outbreaks of infectious disease (Pandemic Influenza)	
Equipment emergencies	Medical devices	Staff, Patient, and Visitor Safety and Security concerns
Health Emergencies	Adult cardiac arrest, paediatric cardiac arrest, local outbreaks, community outbreaks	
Technological Hazards	Fire/explosion, internal flood,	
Agricultural and Food Emergencies	Shortages of food supplies, pharmaceuticals, medical supplies and equipment	
Human Caused Hazards	Bomb Threat, Missing person, Hostage, Child Abduction, violent person, civil disorders, human errors	

Table: Assumptions Library

What is this? A tool to help hospitals to keep track of assumptions about different hazards. This tool can assist with updating the HIRA as new information is obtained and the risk scores may change.

Why is it useful? This tool may also assist in discussions with other health care stakeholders, on assumptions made about specific hazards and the prioritization of mitigation and preparedness resources.

How to use it? Complete each of the fields of the assumptions template for each of the hazards to keep track of the Emergency Preparedness Committees perception of risk for each hazard.

Project Name:

Date: Prepared By:

Assumption	Description	Confidence Level (H/M/L)	Impact on Planning	Barriers

Tool: Risk Management Strategy Matrix

What is this? Two examples of a tool to assist the hospital with describing the hazard and assessment of associated risks in order to mitigate and/or manage such risks, develop preparedness and response strategies, and prioritize resources. Used with permission of Hôpital regional de Sudbury Regional Hospital.

Why is it useful? Faced with several hazards that may be ranked in a similar way, completion of a risk management strategy can assist a hospital to better organize and prioritize the work that needs to be done. It can also serve as a tool to promote organizational memory.

How to use it? A good emergency management program must consider the four pillars of emergency management. For each of the hazards complete the steps the hospital can take to mitigate the hazard, detail can consider the costs or pros and cons of the activities. Preparedness activities can include the types of plans that would need to be developed to support the emergency response and recovery stages.

Risk Identified	Probability Score	Impact Score	Initial Risk Score	Preparedness & Response Readines	Risk Evaluation	Risk Mitigation & Control Measures	Revised Risk Score	Priority	Recommendations

Table: Sample Expanded Hospital Incident Management System Organizational Chart

What is this? Sample expanded hospital incident management system (IMS) organizational chart, with listing of potential positions that would fill each functional role. Used with permission of Kingston General Hospitals.

Why is it useful? While it is not the intention for hospitals to reproduce this organizational chart, it provides an example of how one hospital has overlayed IMS for an emergency that requires activation of all functional roles (i.e., pandemic influenza).

How is it used? Consider the expanded organizational chart and with the help of the Emergency Preparedness Committee identity what functional roles could be or would be required for an emergency response at your facility.
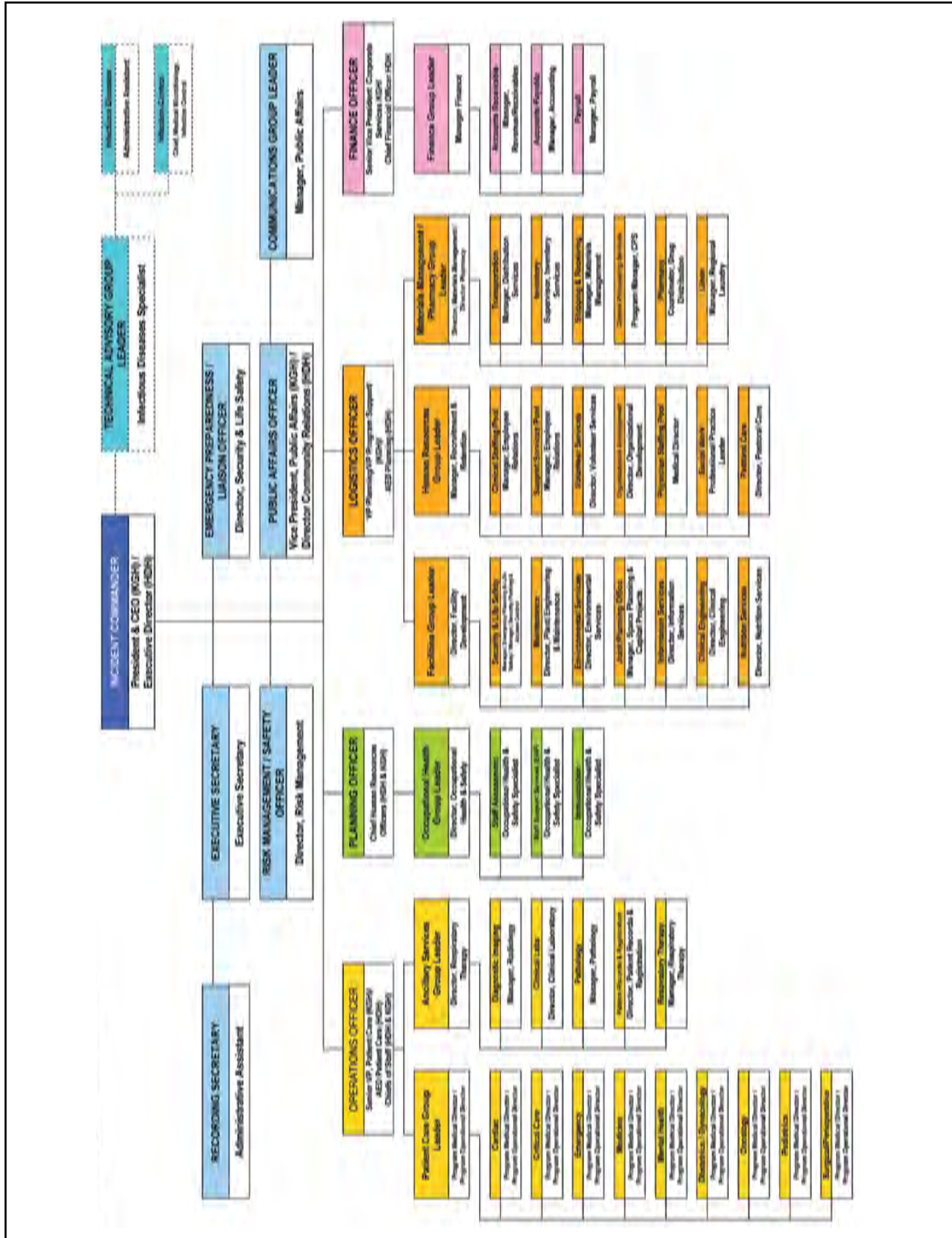
Templates: Sample Job Action Sheets

What is this? Sample activities for job action sheets for key functional roles involved in leading the response at the hospital level for an emergency situation, such as infectious disease.

Why is it useful? It can serve as a checklist for the actions that need to occur immediately over the short and longer term of the response (and recovery stages).

How to use it? Continue to build and incorporate specific considerations outlined as a result of developing specific hospital plans (i.e., emergency colour codes, hazard plans).
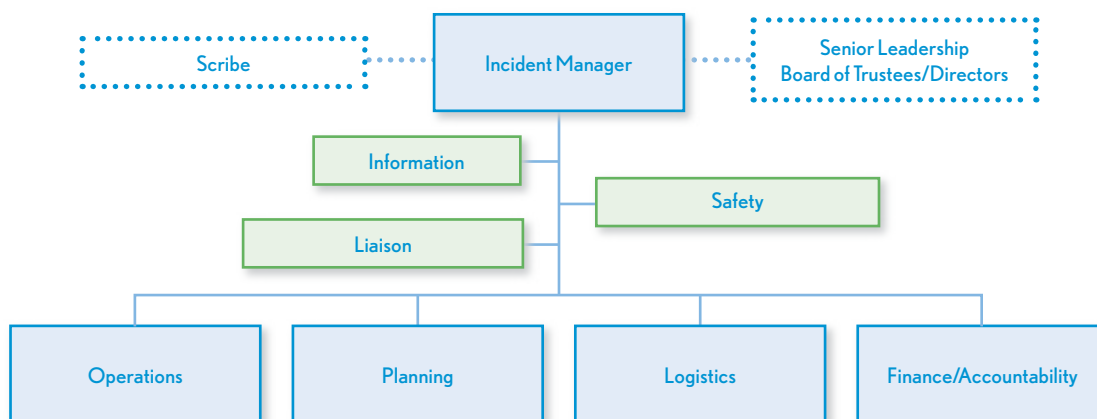
The following job action sheet is taken from the Kingston General Hospital/Hotel Dieu Hospital

Incident Manager Job Action Sheet	
Position assigned to:	
You report to	Board of Directors
Your telephone number is:	
People reporting to you	Operations Officer, Corporate Services/Finance Officer, Technical Advisory Group, Emergency Management/Liaison Officer, Public Affairs Officer, Executive Secretary

Immediate Actions Required:

☐ Read this entire section before proceeding

☐ Request that the Executive Secretary activate the hospital Emergency Operations Centre (EOC)

☐ Brief the Board of Directors

☐ Report to the EOC

☐ Assume role of Incident Commander/Put on position Identification Vest

☐ Organize and direct EOC as per IMS model

☐ Confirm who will fill the roles of the EOC positions – provide this information to the Executive Secretary

☐ Request that the Operations Officer obtain a status report from his/her portfolio – status reports will be handed in to the Executive Secretary

☐ Request that the Corporate Services/Finance Officer obtain a status report from his/her portfolio – status reports will be handed in to the Executive Secretary

☐ Using the hospital information cycle, establish initial briefing session and consider frequency of meetings – note the MOHLTC and OHA information cycles within the pandemic plan

Secondary Actions Required:

☐ Consider the event impact from the long-term perspective:

  • Ensure designates have been identified to fill the role in your absence

  • Ensure your staff are taking rest breaks

- Observe your staff for signs of stress or fatigue and report concerns to Occupational Health Group. Reinforce EAP support

- Consider needs for staff and volunteers with regard to food and shelter

- Brief your relief, ensuring that ongoing activities are identified and follow-up requirements known

☐ Consider a Staff Town Hall Session

☐ Consider what to tell the public – try to coordinate messaging with public health and PCCC

☐ Determine whether or not to dismiss the EOC team until further activity – **if dismissed, ensure the Executive Secretary monitors phone/fax lines and that he/she has the ability to contact the EOC team if required**. Based on the information cycle established, EOC members should return for brief/debrief sessions

☐ Receive/interpret Ministry directives – use your people resources to help with interpretation of new directives

☐ Link with community to provide off site care

Recovery:

☐ Activate the demobilization of the EOC on advice from the Technical Advisory Group and Planning Officer

☐ Participate in event debriefing

☐ Evaluate strategies for emergency measures and facilitate any required improvements

☐ Return to normal function

Finance Job Action Sheet	
Position assigned to:	
You report to	Incident Commander
Your telephone number is:	
People reporting to you	Planning Officer, Logistics Officer, Finance Group Leader

Immediate Actions Required:

☐ Read this entire section before proceeding

☐ Upon receiving notification of the EOC activation, report to the Dietary 3 Board Room

☐ Assume role of Corporate Services Officer, put on position identification vest

☐ Prepare to receive a briefing from the Incident Commander

☐ Establish initial briefing with Planning, Logistics and Finance officers

Secondary Actions Required:

☐ Consider the event impact from the long-term perspective:

☐ Ensure designates have been identified to fill the role in your absence

☐ Ensure your staff are taking rest breaks

☐ Observe your staff for signs of stress or fatigue and report concerns to Occupational Health Group. Reinforce EAP support.

☐ Brief your relief, ensuring that ongoing activities are identified and follow-up requirements known

☐ Receive regular updates regarding response to the incident from Planning, Logistics and Finance officers

☐ Document action and decisions on a continual basis

☐ Other duties as assigned by the EOC Commander

☐ Brief the EOC Commander during the Business Cycle Meetings

☐ Link with community to provide off site care

☐ Ensure appropriate planning for demobilization of EOC staff and termination of Emergency Operations in consultation with Incident Commander

Recovery:

☐ Receive all logs, notes and relevant information for the debriefing session from Planning, Logistics and Finance officers

☐ Evaluate strategies for emergency measures and facilitate any required improvements

☐ Participate in event debriefing

☐ Return to normal function

Information Officer Job Action Sheet	
Position assigned to:	
You report to	Incident Commander
Your telephone number is:	
People reporting to you	Communications Group Leader

Immediate Actions Required:

☐ Read this entire section before proceeding

☐ Upon receiving notification of the EOC activation, report to the Dietary 3 Board Room

☐ Assume role of Public Affairs Officer/Put on position Identification Vest

☐ Prepare to receive a briefing from the Incident Commander

☐ Assess media needs

☐ Keep media contact information current

☐ Assess resources required, i.e. staffing, supplies etc.

☐ Identify key spokespeople (CEO or delegate) and conduct media training as required

☐ Review and refine key message statements and ensure all public information releases are approved by the EOC Commander

☐ Consult with Risk Management to discuss legal, liability and risk considerations attached to decision making in preparation for Phase 6 response

Secondary Actions Required:

☐ Consider the event impact from the long-term perspective:

- Ensure designates have been identified to fill the role in your absence

- Ensure your staff are taking rest breaks

- Observe your staff for signs of stress or fatigue and report concerns to Occupational Health Group. Reinforce EAP support.

- Brief your relief, ensuring that ongoing activities are identified and follow-up requirements known

☐ Notify the Communications group of the Media restricted areas

☐ Develop regular updates for all staff in conjunction with Communications Group

☐ Provide briefing to Board, LHIN and Ministry officials in consultation with Incident Commander Document action and decisions on a continual basis

☐ Monitor broadcast and print media, using information to develop follow-up news releases and rumour control

☐ Ensure that file copies are maintained of all information released and provide copies to Incident Commander

☐ Ensure development of appropriate public information regarding patient numbers, mortality, etc. in connection with Operations

☐ Formal letters to staff members and their families, assuring them of the hospital's desire to keep them safe & to encourage them to come to work

☐ Organize and prepare support materials for daily media briefings

☐ Ongoing communication and updates to management and your staffing group

Recovery:

☐ Participate in event debriefing

☐ Evaluate strategies for emergency measures and facilitate any required improvements

☐ Return to normal function

Liaison Officer Job Action Sheet	
Position assigned to:	
You report to	Incident Commander
Your telephone number is:	
People reporting to you	Emergency Management Group Leader

Immediate Actions Required:

☐   Read this entire section before proceeding

☐   Upon receiving notification of the EOC activation, report to the Dietary 3 Board Room

☐   Assume role of Emergency Management/Liaison Officer/Put on position Identification Vest

☐   Prepare to receive a briefing from the Incident Commander

☐   Establish contact with liaison counterparts both locally and provincially. Keep governmental Liaison Officers updated on hospital's response to Pandemic

Secondary Actions Required:

☐   Consider the event impact from the long-term perspective:

   • Ensure designates have been identified to fill the role in your absence

   • Ensure your staff are taking rest breaks

   • Observe your staff for signs of stress or fatigue and report concerns to Occupational Health Group. Reinforce EAP support.

   • Brief your relief, ensuring that ongoing activities are identified and follow-up requirements known

☐   Request assistance and information as needed through the inter-hospital communication network or municipal EOC

☐   Obtain information to provide the inter-hospital emergency communication network, and/or municipal EOC upon request:

   • The number of patients that can be received and treated immediately

   • Any current or anticipated shortage of personnel, supplies, etc

   • Current condition of hospital structure and utilities

   • Number of patients to be transferred by wheelchair or stretcher to another hospital

   • Any resources which are requested by other facilities

☐   Provide updates and appropriate information to external agencies

☐   Document action and decisions on a continual basis

☐   Provide regular update to the EOC Commander

☐   Other duties as assigned by the EOC Commander

☐   Ongoing communication and updates to management and your staffing group

☐   Ongoing review of pandemic situation and contingency plans in conjunction with resource information from outside agencies

☐   Link with community to provide off site care

Recovery:

☐ Return to normal function

☐ Participate in event debriefing

☐ Evaluate strategies for emergency measures and facilitate any required improvements

Operations Job Action Sheet	
Position assigned to:	
You report to	Incident Commander
Your telephone number is:	
People reporting to you	Patient Care Group, Ancillary Services Group

Immediate Actions Required:

☐ Read this entire section before proceeding

☐ Upon receiving notification of the EOC activation, report to the Dietary 3 Board Room

☐ Assume role of Operations Officer/Put on position Identification Vest

☐ Prepare to receive a briefing from the Incident Commander

☐ Meet with Patient Care and Ancillary Services Group to assess & respond to current patient Care needs

☐ Identify services that are essential, can be stopped or reduced

☐ Prioritize and establish guidelines for essential patient care services within KGH

☐ Develop action plan for patient care services. Implement all steps to increase capacity and supplement staff

☐ Implement decanting strategies. Direct medical staff to designate patients for early discharge

☐ Consult with Risk Management to discuss legal, liability and risk considerations attached to decision making in preparation for response

☐ In collaboration with Technical Advisory group suggest restriction/suspension of visiting Practices

Secondary Actions Required:

☐ Consider the event impact from the long-term perspective:

• Ensure designates have been identified to fill the role in your absence

• Ensure your staff are taking rest breaks

• Observe your staff for signs of stress or fatigue and report concerns to Occupational Health Group. Reinforce EAP support.

• Brief your relief, ensuring that ongoing activities are identified and follow-up requirements known

☐ Establish routine briefings with Patient Care and Ancillary Services Group

☐ Ensure updates from Patient Care and Ancillary Services Group Leaders about adequate staff and supplies for current conditions in regards to the delivery and quality of care in all patient care areas

☐ Receive update from Logistics Officer regarding critical resources and reconcile with Projected need

☐ Enforce infection control practices

☐ Using phased deferral of services approach, cancel scheduled clinics and establish consolidated follow-up clinic at HDH

☐ Reassess needs of consolidated clinic

☐ Review and management of staffing to ensure optimal use of workforce

☐ Implement adjustments to workload and safety procedures as directed by EOC Commander

☐ Ongoing communication and updates to management and your staffing group

☐ Obtain from Patient Care Group Leader casualty data and provide to the EOC Commander:

   • Number of influenza patients received and care required

   • Number hospitalized and number discharged to home or other facilities

   • Individual casualty data: name, sex, age, address, seriousness or condition

☐ Provide statistics on patient numbers, acuity and mortality to communications group and Planning Officer via the Public Affairs Officer

☐ Document action and decisions on a continual basis

☐ Notify EOC of information that would suggest that Pandemic may be concluding

Recovery:

☐ Evaluate strategies for emergency measures and facilitate any required improvements

☐ Participate in event debriefing

☐ Return to normal function

Logistics Officer Job Action Sheet	
Position assigned to:	
You report to	Corporate Services/Finance Officer
Your telephone number is:	
People reporting to you	Facilities Group Leader, Human Resources Group Leader, Materials Management/Pharmacy Group

Immediate Actions Required:

☐ Read this entire section before proceeding

☐ Upon receiving notification of the EOC activation, report to the Dietary 3 Board Room

☐ Assume role of Logistics Officer/Put on position Identification Vest

☐ Prepare to receive a briefing from the Incident Commander

☐ Brief Leaders of Facilities, Human Resources and Material Management/Pharmacy Groups

☐ Identify services that are essential, can be stopped or reduced

☐ Ensure necessary resources to support the medical objective(s) are available

☐ Ensure Transportation of persons, equipment, and supplies as required

☐ Ensure necessary communication tools are operational

☐ In collaboration with Risk Management Officer restrict visitor access.

☐ Recommend the level of perimeter security and access control and notify Public Affairs Officer
to communicate

☐ Limit controlled entry access and exits for all staff and visitors

☐ Coordinate with Planning and Facilities to ensure the security of antivirals

Secondary Actions Required:

☐ Consider the event impact from the long-term perspective:

  • Ensure designates have been identified to fill the role in your absence

  • Ensure your staff are taking rest breaks

  • Observe your staff for signs of stress or fatigue and report concerns to Occupational Health Group.
    Reinforce EAP support.

  • Brief your relief, ensuring that ongoing activities are identified and follow-up requirements known

☐ Establish routine briefings with Leader of Facilities, Human Resources and Materials Management/Pharmacy

☐ Groups to discuss assessment of pandemic situation, staffing and stock levels

☐ Consult with Risk Management to discuss legal, liability and risk considerations attached to decision making in
preparation for Phase 6 response

☐ Work with Public Affairs Officer to limit access for media and provide communication of such

☐ Track critical resources and provide updates to Operations, Planning and EOC Commander

☐ Using critical lists educate vendors/staff of the possible priority access to supplies and personnel resources

☐ In collaboration with Human Resources and Risk Management determine skill sets of staff, volunteers and
other human resources for redeployment

☐ Coordinate closely with the Operations and Planning Section Chiefs to establish priorities and ultimately
formulate decision for resource allocation during the response

☐ Receive from Materials Management the overall condition and sustainability of operations from a labour,
equipment and medication perspective

☐ Maintain resource listings, vendor references, and other resource directories

☐ Track resources and supplies for cost purposes to Finance Officer

☐ Receive infrastructure tracking reports for all Facilities Groups

☐ Track progress, provide updates, and solve problems within each group

☐ Assure technology infrastructure in place i.e. pagers, computers etc. in conjunction with Facilities Group leader

☐ Ensure backup and protection of existing data for main and support computer systems

☐ Have Facilities, Human Resources and Materials Management/Pharmacy Group Leaders report any unsafe, hazardous or security issues (e.g. Security of Antivirals, Triage, Discharge or Morgue areas)

☐ Provide regular update to the EOC Commander during Business Cycle

☐ Ongoing communication and updates to management and your staffing group

☐ Ongoing review of Pandemic situation and contingency plans

☐ Document action and decisions on a continual basis

☐ Other duties as assigned by the EOC Commander

☐ Link with community to provide off site care

Recovery:

☐ Evaluate strategies for emergency measures and facilitate any required improvements

☐ Participate in event debriefing

☐ Return to normal function

Planning Job Action Sheet	
Position assigned to:	
You report to	Incident Commander
Your telephone number is:	
People reporting to you	

Immediate Actions Required:

☐ Read this entire section before proceeding

☐ Upon receiving notification of the EOC activation, report to the Dietary 3 Board Room

☐ Assume role of Planning Officer/Put on position Identification Vest

☐ Prepare to receive a briefing from the Corporate Services Officer

☐ Brief the Occupational Health Group Leader

☐ Identify services that are essential, can be stopped or reduced

☐ Establish a process for short and long-term planning to execute normal business level. Be prepared to update the plan as situations develop

☐ Consult with Risk Management to discuss legal, liability and risk considerations attached to decision making in preparation for response

☐ Ensure through collaboration with Logistics Officer that Materials Management maintains a supply of Person Protective Equipment

☐ Coordinate with Occupational Health and Logistics regarding security of antivirals when available

Secondary Actions Required:

☐ Consider the event impact from the long-term perspective

☐ Ensure designates have been identified to fill the role in your absence

☐ Ensure your staff are taking rest breaks

☐ Consider needs for staff and volunteers with regard to food and shelter

☐ Observe your staff for signs of stress or fatigue and report concerns to Occupational Healt Group. Reinforce EAP support.

☐ Brief your relief, ensuring that ongoing activities are identified and follow-up requirements known

☐ Consider a long-range plan for organizational response

☐ Ask Occupational Health, Staff Assessment, Staff Support and Immunization groups to report unsafe work measures to Group Leader

☐ Occupational Health Group Leader to report above unsafe work measures to Planning Officer, who will report concerns to Risk Management

☐ Optimize use of technology to reduce on–site human resource needs

☐ Other duties as assigned by the Corporate Services/Finance Officer

☐ Receive patient census status update from Operations Officer

☐ Ongoing review of Pandemic situation and contingency plans

☐ Ongoing communication and updates to management and your staffing group

☐ Provide regular update to the Corporate Services/Finance Officer

☐ Link with community to provide off site care

☐ Ensure appropriate planning for demobilization of EOC staff and termination of Emergency operations in consultation with the Corporate Services Officer

Recovery:

☐ Collect all logs, notes and relevant information for the debriefing session

☐ Evaluate strategies for emergency measures and facilitate any required improvements

☐ Participate in event debriefing

☐ Return to normal function

Safety Officer Job Action Sheet

Position assigned to:	
You report to	Incident Commander
Your telephone number is:	
People reporting to you	

Immediate Actions Required:

☐ Assess and anticipate unsafe situations

☐ Develop and recommend measures for staff safety based on information provided

☐ Evaluate need for equipment, supplies such as decontamination, isolation, personal protective (PPE)

☐ Be alert to any hazardous conditions throughout the facility

☐ Be prepared to temporarily stop work and/or prevent unsafe acts until safety conditions met

Secondary Actions Required:

☐ Liaise with Infection Prevention and Control as required

☐ Provide required information to Liaison Coordinator/Officer for external agencies such as Public Health

☐ Monitor safety conditions and develop measures to ensure the safety of all assigned staff throughout the emergency situation

☐ Monitor efficacy of infection prevention and control measures (incident dependent)

☐ Monitor efficacy of decontamination procedures (incident dependent)

☐ Evaluate need for additional equipment and communicate need to Logistics Coordinator/Officer as required

Extended Actions:

☐ Observe all staff and volunteers for signs of stress and inappropriate behavior

☐ Ensure that staff is provided with appropriate rest and respite as required

☐ Investigate accidents that may have occurred during the incident

Table: Elements Of Emergency Operations Centre (EOC)

What is this? Sample checklist of functional and resource needs for a hospital Emergency Operations Centre, with supporting schematic diagram. Schematic used with permission of Kingston General Hospitals.

Why is it useful? Provides a comprehensive starting point for those hospitals just starting out with the development of an EOC to support the Emergency Management Program.

How to use it? Consider the checklist and with the support of the hospital Emergency Preparedness Committee, identify additional items that may be required based upon the unique characteristics of the hospital.

Emergency Operations Center (EOC)

The EOC is a facility designated for managing disaster emergencies. The Incident Management Team uses the EOC as their center of operations to direct the overall disaster emergency response.

The EOC centralizes incident management and:

- Provides a central point where all information pertaining to the incident is received and analyzed, incident priorities are determined, strategies are developed and critical resources are assigned to tactical operations
- Provides a central location for planning meetings, tactics meetings, shift briefings, media briefings, press conferences, public information releases and other information dissemination
- Facilitates efficient and effective communications
- Enhances coordination among agencies by co-locating agency representatives in the EOC, providing for scheduled points of contact, and establishing effective lines of communication to facilitate this coordination
- Sustains operations during extended periods of time by locating the incident management team in an EOC facility that minimizes disruptions of everyday functions within other organizations and agencies
- Provides continuity using round-the-clock staffing and a systematic means to brief members of the IMT through shift briefings when shifts change

Overview of EOC Configuration

The layout of the EOC will be determined by several factors, including:

- Number of members of the Incident Management Team
- Size, shape, and number of the room(s) available for the EOC
- Location of the communications systems equipment to be utilized
- Lessons learned from previous incidents

http://www.borough.kenai.ak.us/emergency/EOP/section_6.pdf

The following general elements should be considered when designing the layout of the EOC:

- IMT functional sections (e.g., command, planning, logistics) should be positioned adjacent to displays that require their input and posted information that they manage.

- The Incident Commander should be located so that he/she can be easily informed at all times of the status of the incident.

- IMT members whose functional responsibilities cause them to interact frequently, or have a need to coordinate together should be co-located.

Setting up the EOC

- In addition to the general considerations for configuration of the EOC that are described above, the

- EOC Needs

☐ **Safety and Access:** The EOC must be accessible for 24-hour operations and safe (sufficiently far from the incident or, in the case of a seismic event, inspected for building safety prior to use).

☐ **Office Space:** The EOC must have adequate space to support the activities of the IMT. To some extent, this is a function of the size of the IMT, the phase of the disaster emergency, and the jurisdictions and agencies involved. It is important to have adequate space to be able to co-locate functional areas (Plans, Logistics, etc.) and agencies that need to interact with each other, as well as provide for access to communication and display systems.

☐ **Lighting:** The EOC must have adequate lighting for staff to carry out their duties. An auxiliary power source is mandatory for the EOC, either permanently hardwired for the facility or the ability to convert to an external power source in a minimum of time and disruption.

☐ **Heating and/or Cooling:** Similar to adequate lighting with the same needs for auxiliary power and/or auxiliary sources of heat.

☐ **Security:** The EOC must be easily secured against intrusion. Access to the EOC should be allowed to only authorized personnel and staff and posted as such.

☐ **Communications Equipment:** It is vital that the EOC have adequate communications equipment and that it is accessible to all personnel.

☐ **Telephones:** Multiple handsets, incoming and outgoing lines, and switchboards are required to handle the information flow of an incident. A minimum of at least six phone lines should be provided.

☐ **Fax Machines:** For transmittal of hard copy information. At least two fax machines should be provided, one for outgoing one for incoming messages.

☐ **Computers:** Computer hardware with adequate data storage space, priority use, and support personnel for the management of incident information and data. Mechanical back-up systems such as resource locator systems and hand written display boards are strongly recommended.

☐ **Incident Radios:** Each section should have access to incident radios.

☐ **Amateur (Ham) Radios:** A suitable area should be provided for the amateur (ham) radio operators. Required power sources, antennas, etc. must be supplied.

☐ **Television Sets and Radios:** Adequate numbers of T.V.'s and radios should be provided for in the EOC to monitor press releases, news media and gather incident information.

☐ **Area Suitable for Briefings:** An area separate from the main EOC operations area where shift briefings, strategy meetings, news media briefings and other meetings can be held without adversely impact the EOC operations.

☐ **Food Service:** An adequate area for serving and/or preparing meals and/or foodstuffs for the EOC staff. The EOC staff must be fed, and if possible meals should be provided in the facility. If this is not feasible, some means to feed staff outside the EOC must be arranged. At the very least, hot and cold beverages and snack food should be available at the EOC.

☐ **Drinking Water:** An adequate supply of drinking water should be on site, especially a back-up supply (e.g., bottled water) for use by personnel in the EOC.

☐ **Toilets:** Adequate toilet facilities should be provided for the EOC staff. Consider portable facilities if building lifelines (water, sewer) are damaged or inoperable.

☐ **Office Supplies:** An adequate amount of office supplies and equipment such as tables and chairs to support the EOC staff need to be available. (See below.)

☐ **Limit Noise Level:** A relatively quiet work area is required for all functional areas to conduct business efficiently and effectively. All means should be taken to minimize noise disturbance in the EOC from equipment (e.g., generators, apparatus, machinery), media briefings, and congregations of people.

☐ **Avoid Crowding:** Only those individuals required to perform IMT duties should be allowed in the EOC.

Use the EOC Supplies Checklist on the following page as a guide for setting up the EOC. Blanks may be checked to indicate the item has been completed and/or to list the number of items secured. Infrastructure

---

EOC SUPPLIES CHECKLIST

Infrastructure

- [ ] Auxiliary power
- [ ] Lighting
- [ ] Office Space
- [ ] Physical needs
        - coffee
        - smoking area
        - restrooms
        - food

General Office and Communications Equipment

- [ ] Telephones
        - # of handsets _____
        - # of lines _____
        - switchboard
- [ ] Fax machine
- [ ] Copy Machine
- [ ] Computer terminal
- [ ] Typewriters/word processors
- [ ] T.V.s
- [ ] VCR
- [ ] Radios
- [ ] Extension cords
- [ ] Tables
- [ ] Chairs
- [ ] Overhead with screen

Office Supplies and Miscellaneous

- [ ] Bulletin boards
- [ ] Display boards
- [ ] Maps
- [ ] Map Pens (Vis a Vis) 8 colors
- [ ] Clear plastic mylar
- [ ] Flip Chart easel
- [ ] Flipchart pads
- [ ] Large manila envelopes 12" x 16"
- [ ] Heavy duty staplers

- [ ] Heavy duty staples
- [ ] Standard desk top staplers
- [ ] Standard desk top staples
- [ ] Paper clips
- [ ] Staple puller
- [ ] Push pins
- [ ] 1" masking tape
- [ ] Writing pads
- [ ] Pencils
- [ ] Pens; black and red ink
- [ ] Assorted rubber bands
- [ ] Scotch Tape
- [ ] Standard file folders
- [ ] Erasers
- [ ] Post-it- pads,
        - ___small
        - ___medium
        - ___large
- [ ] Legal size writing pads
- [ ] Legal size clipboards
- [ ] Three hole punch
- [ ] File folder labels
- [ ] 2" x 3" blank labels
- [ ] Telephone memo call pads
- [ ] Dictionary
- [ ] Erasable felt tip pens, assorted colors
- [ ] Copy and fax paper
- [ ] Computer printer paper
- [ ] Boxes for filing
- [ ] ICS and other forms
- [ ] Name tags

2007 PANDEMIC INFLUENZA PLAN

Part 2, Section 1: Command & Control

2.0 Hospitals Emergency Operations Centre (EOC) Layout

Figure 4 depicts the EOC setup where the Senior EOC members will direct/control the response to the pandemic response.
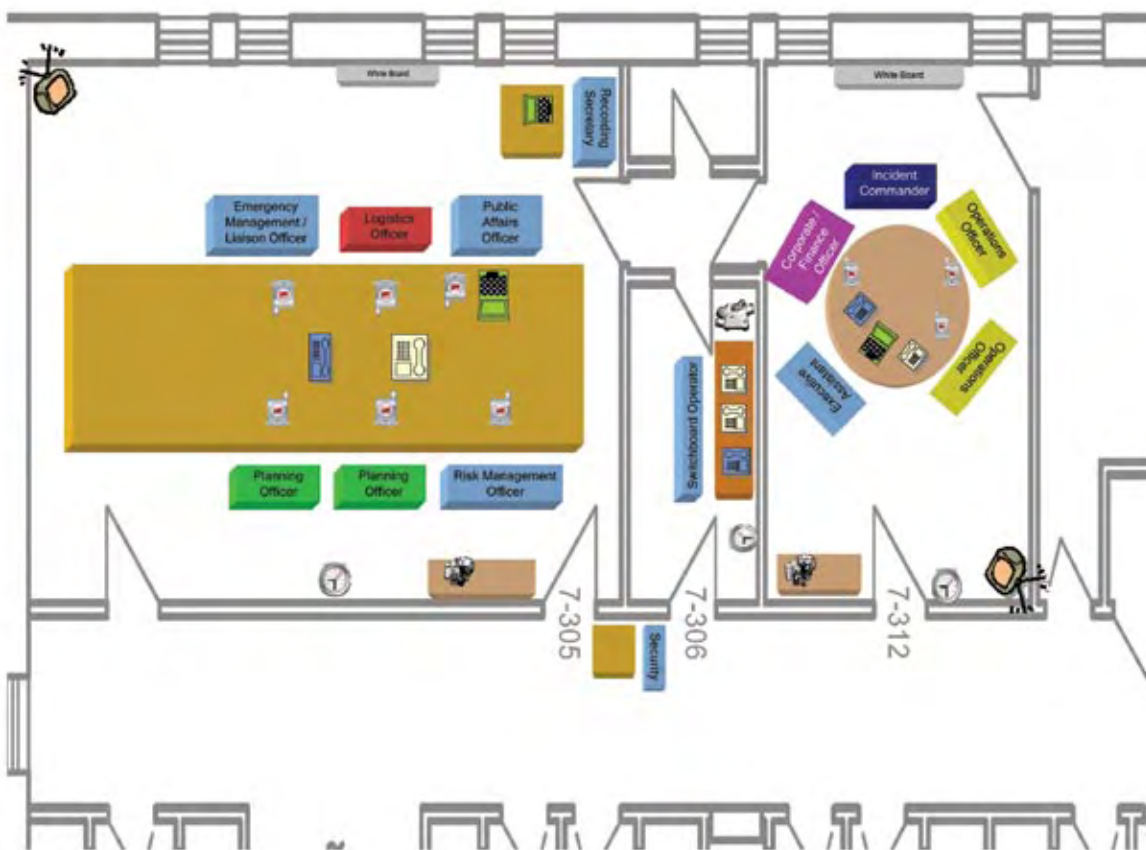
Figure 4

Table: Background Detail About Emergency Colour Choices

What is this? A table that provides further detail about the association between the code, incident, and choice of colour.

Why is it useful? The OHA emergency colour codes were first standardized in 1993 and the associations made between the primary cue or "code" and the secondary cue or "colour" was established based upon common practice during that time. It is important to know the associations so that hospitals realign with the OHA standardized emergency colour codes and not utilize the colours for other purposes.

Codes	Incident	Why Chosen
Code White	Violent/Behavioural Situation	Colour of restraints

Code Yellow
    Code Amber
	Missing Person
	    (subset) Missing Child/Child Abduction
		Patients prone to wandering are dressed in yellow vests

Code Green
    Code Green STAT
	Evacuation (Precautionary)
	    Evacuation (Crisis)
		Green light signifies 'go' or leave location
		STAT refers to immediate

Code Red	Fire	Colour of fire engines

Code Orange
    Code Orange CBRN
	Disaster
	    (subset) CBRN Disaster
		Patients brought to hospital in orange ambulance/emergency medical services, and orange was the traditional colour of the vehicles

Code Black	Bomb Threat/Suspicious Object	Colour of charred material
Code Blue	Cardiac Arrest / Medical Emergency - Adult	Person in arrest has blue-tinged skin
Code Pink	Cardiac Arrest /Medical Emergency-Infant/Child	Resuscitated baby 'pinks' up
Code Brown	In-facility Hazardous Spill	Colour for noxious substance
Code Purple	Hostage Taking	Colour of bruising

Code Grey
    Code Grey Button-down
	Infrastructure Loss or Failure
	    (subset) External Air Exclusion
		Colour of cables and infrastructure.
		Colour for gaseous cloud.

Template: OHA Emergency Colour Codes

What is this? The OHA Emergency colour codes chart, standardized in December 2008. This is available in hospital badge size, 8 x 11.5 letter size and a larger poster size.

EMERGENCY COLOUR CODE LIST

CODE YELLOW Code Amber	Missing Person Missing Child/Child Abduction
CODE ORANGE Code Orange CBRN	Disaster CBRN Disaster
CODE RED	Fire
CODE WHITE	Violent/Behavioural Situation
CODE BLUE	Cardiac Arrest/Medical Emergency - Adult
CODE GREEN Code Green STAT	Evacuation (Precautionary) Evacuation (Crisis)
CODE PINK	Cardiac Arrest/Medical Emergency - Infant/Child
CODE BROWN	In-facility Hazardous Spill
CODE PURPLE	Hostage Taking
CODE BLACK	Bomb Threat/Suspicious Object
CODE GREY Code Grey Button-down	Infrastructure Loss or Failure External Air Exclusion

OHA ONTARIO HOSPITAL ASSOCIATION
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* New codes being standardized in 2008

Table: OHA Emergency Colour Codes Overview Table

What is this? A table that provides a more detailed description of the definitions for each of the OHA emergency colour codes and how they should be used.

Why is it useful? Support the hospital in the development of specific emergency response plans for each of the colour codes.

Hospital Emergency Code	Definition	Intended Response/ Rationale/Recommendations
Code White- Violent/ Behavioural Situation	The code designed to initiate a cautious and proscribed response to a patient; visitor or staff member who is displaying undue anxiety, yelling or otherwise represents a threat of aggression or violence to themselves or others.	The intended response includes appropriate intervention by a specified response team (i.e., Physician, Nurse, Security, and/or Police) to deescalate the undesirable behaviours.
Code Yellow-Missing Person Code Yellow Subset: Code Amber- Missing Child/Child Abduction	The code designed to initiate a comprehensive expedient search by designated staff to locate a missing patient (unauthorized absence from the unit/hospital) before that patient's safety and well-being is compromised.	The intended response includes an assessment of the patient's level of risk and a risk-specific search action plan. While some hospitals have created a distinct Code Amber designation for an abducted child scenario it is recommended that these procedures remain under the Code Yellow response umbrella as a subset. There is a difference in both what is being sought, and in the degree of urgency; staff are being asked to be alert for an infant or small child. In this case, facilities may elect to announce Code Amber, instead of Code Yellow. Both announcements are considered acceptable, and the Code Amber response should follow the procedures outlined for Code Yellow.

Hospital Emergency Code	Definition	Intended Response/ Rationale/Recommendations
Code White- Violent/Behavioural Situation	The code designed to initiate a cautious and proscribed response to a patient; visitor or staff member who is displaying undue anxiety, yelling or otherwise represents a threat of aggression or violence to themselves or others.	The intended response includes appropriate intervention by a specified response team (i.e., Physician, Nurse, Security, and/or Police) to deescalate the undesirable behaviours.
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Code Green- Precautionary Evacuation Code Green Subset: Code Green STAT- Evacuation (Crisis)	The code designed to initiate an orderly response when it is recommended to evacuate within a certain perimeter (usually a building or a specific location within a building) until the initial situation is contained. The direction of evacuation may be limited to a horizontal evacuation. The code designed to initiate a complete and orderly evacuation of an area, usually on a large-scale, possibly for a prolonged period of time.	The intended response involves adequate communication with the staff involved explaining that an evacuation is pending, what they shall be required to do and when they shall be required to react if an evacuation order is issued. The order of evacuation is a recommended component of an effective evacuation plan. The intended response is to achieve effective evacuation and relocation of people in a safe and timely manner. The direction of the evacuation may include both horizontal and vertical. The order of evacuation is a recommended component of an effective evacuation plan.

Hospital Emergency Code	Definition	Intended Response/ Rationale/Recommendations
Code Red- Fire	The code designed to alert hospital personnel to the detection of smoke or fire.	The intended response is to announce the code status to the organization through a central announcement.
Code Orange- Disaster Code Orange Subset: Code Orange-CBRN	The code designed to activate a response to an external disaster whereby the influx of patients demands additional resources to manage the event. The code extension designed to activate a response to an external disaster whereby the influx of patients demands additional resources to manage the event and decontamination from CBRN/ hazardous materials exposure.	The OHA-recommended alert and preparation phase enables staff to ready the emergency department to assess staffing levels, clear beds and establish triage areas as required. The OHA-recommended full-scale stage launches the organizational response. An equally acceptable approach in some hospital Code Orange plans is to divide the response phase into "limited" implying that designated personnel/departments respond and/or "full" implying the need for greater numbers of resources. The OHA recommends a CBRN response as an extension of Code Orange to denote the addition of decontamination procedures within the Code Orange response.
Code Black- Bomb Threat/Suspicious Object	The code designed to address a bomb threat or discovery of or search for a suspicious object.	In the instance of a bomb threat, a preliminary assessment is recommended with qualified personnel (Police, Security) to establish the need for a full-scale search and/or facility evacuation. In the event of a search, staff is requested to search their work areas to expedite the identification of objects that are foreign to the area and therefore raise doubts.

Hospital Emergency Code	Definition	Intended Response/ Rationale/Recommendations
Code Brown- In-facility Hazardous Spill	The code designed to alert staff to an accidental release of a hazardous or potentially hazardous material.	The OHA-recommended manageable stage of the code represents an in-house facility response to materials that pose minimal or no risk to individuals, and the performance of cleanup and disposal procedures within the scope of staff knowledge and capability. The OHA-recommended unmanageable stage of the code represents the need for response to the release of material that may pose a clear and present danger to individuals necessitating the activation of an in-house response team and/or external emergency response personnel (Fire, Hazardous Material Unit) and potential evacuation of a specified area.
Code Blue- Cardiac Arrest / Medical Emergency - Adult	The code designed to respond to a medical emergency, when a person is experiencing a real or suspected imminent loss of life.	If the victim assessed is not responding, the ABC's of basic cardiac life support are followed -airway, breathing, and circulation. Life-saving techniques such as CPR efforts are initiated if necessary.
Code Pink- Cardiac Arrest /Medical Emergency-Infant/Child	The code designed to distinguish a Paediatric arrest from that of an adult.	Similar to Code Blue, life-saving techniques are initiated as necessary.
Code Purple- Hostage Taking	The code designed to elicit a response to a hostage-taking.	The OHA recommends the hostage taking scenario as a unique response designed to restrict staff response to the incident. The intended response is to evacuate all patients, visitors or staff from the immediate area if it is safe to do so, security staff to establish restrictive perimeters for the purpose of isolating the incident, and the Police to take charge of the incident.

Hospital Emergency Code	Definition	Intended Response/ Rationale/Recommendations
Code Grey- Infrastructure Loss or Failure Code Grey Subset : Code Grey – Button Down (External Air Exclusion)	The Code designed to alert the organization to an infrastructure loss or failure of substantial significance. (i.e., flood, emergency generator failure). The Codes is designed to alert the organization to exclude external air from entering the facility (i.e. external chemical plume).	If a building or a location within a building has sustained damage (Code Grey- Infrastructure Failure), this may similarly necessitate immediate relocation or evacuation to achieve a safe and secure environment. If the building or a location within a building is subjected to air quality concerns, (Code Grey-External Air Exclusion).

Tools: OHA IMS-Emergency Colour Code Overlay

What is this? An illustration of how to overlay Hospital IMS with each of the Hospital Emergency Codes.

Why is it useful? Every emergency colour code plan and/or exercise drill that utilizes the IMS framework will build familiarity and continue to reinforce knowledge about IMS. The overlay framework serves to provide a suggested visual about the types of functional roles that may be activated upon a particular code being called.

How to use it? For each of the colour codes refer to the sample expanded IMS organizational chart and the types of functional roles that may be utilized to respond to the emergency. The overlay is a result of developing an emergency response plan for the code, with supporting plans that outline detailed procedures that are to take place (e.g., communications, safety, triage), which get rolled up into specific job action sheets for functional areas. The functional areas are then highlighted on the hospital IMS organizational chart, allowing the hospital to see in a snapshot the types of things that need to be considered or coordinated for a successful response procedure. For Codes Orange, Purple, Brown and Grey sample activities for Job Action Sheets are provided.

Code Yellow

Key — Inactive Position — Active Position

Senior Leadership Board/Trustees

Incident Manager

Scribe/Recorder

Liaison

Safety

Information

Finance/Administration
- Procurement Reimbursement Payment
  - Materials Equipment Supply
  - Total Costs
- Compensation
  - Claims
  - Staffing Costs

Logistics
- Supply Chain
  - Transportation
  - Nutrition
  - Materials Medical Supplies
  - Biomedical Devices
  - Telecommunication
  - Information Technology
- Facilities
  - Fire/Security
  - Life Safety
  - Perimeter
  - Access/Egress
  - Damage Assessment
  - Facility Status
  - HVAC Sanitation

Planning
- Planning Support
  - Technical Advisory
  - Incident Action Plan
  - Patient Tracking
  - Situation Status
  - Research
  - Demobilizing Recovery
  - Document After Action
  - Family Information
  - Volunteers
  - Psych Support
  - Pastoral Care
- Human Resources
  - Labour Pool
  - Medical Staffing
  - Nursing Staffing
  - Staff Support

Operations
- Medical Care
  - Emergency Treatment
  - Triage
  - Immediate Care
  - Delayed Care
  - Minor Care
  - Discharge
  - Morgue
  - Decontamination Hazmat
  - Inpatient Areas
  - Critical Care
  - Surgical Services
  - Maternal Child
  - Ambulatory
  - Holding Areas
  - Red Holding
  - Yellow Holding
  - Green Holding
  - Document Discharge
- Clinical Support
  - Diagnostic Imaging
  - Pharmacy
  - Respiration Therapy
  - Laboratory Services

Code Orange

Key

- Inactive Position
- Active Position

Incident Manager

Senior Leadership Board/Trustees

Scribe/Recorder

Liaison

Safety

Information

Finance/Administration
- Procurement Reimbursement Payment
  - Total Costs
- Compensation
  - Claims
    - Staffing Costs

Logistics
- Supply Chain
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  - Pharmacy
  - Respiration Therapy
  - Laboratory Services

Code Orange (Infection Disease)

Immediate (Operational Period 0 – 2 hours)

Command

(Incident Commander):

☐ Activate the appropriate Medical/Technical Specialists to assess the incident

☐ Activate Command staff and Section Chiefs

☐ Implement regular briefing schedule for Command staff and Section Chiefs

☐ Implement the infectious patients surge plan and other emergency management plans, as indicated

☐ Cancel elective surgeries and outpatient clinics/testing, if required

(Medical Technical Specialist - Biological):

☐ Verify from the ED attending physician and other affected clinics, in collaboration with Public Health officials, and report the following information to the Incident Commander

 • Number and condition of patients affected, including the worried well

 • Type of biological/infectious disease involved (case definition)

 • Medical problems present besides biological/infectious disease involved

 • Measures taken (e.g., cultures, supportive treatment)

 • Potential for and scope of communicability

 • Implement appropriate PPE and isolation precautions

(Liaison Officer):

☐ Communicate with local emergency management and other external agencies (e.g., health department) to identify infectious agent

☐ Communicate with EMS/Public Health to determine the possible number of infectious patients

☐ Communicate regularly with Incident Commander and Section Chiefs regarding operational needs and integration of hospital function with local EOC

(Information Officer):

☐ Monitor media outlets for updates on the pandemic and possible impacts on the hospital. Communicate information via regular briefings to Section Chiefs and Incident Commander

(Safety Officer):

Conduct ongoing analysis of existing response practices for health and safety issues related to staff, patients, and facility, and implement corrective actions to address.

Operations

☐ Provide just-in-time training for both clinical and non-clinical staff regarding the status of the event, precautions they should take, and rumor control.

☐ Notify the ED of possible numbers of incoming infectious patients, in consultation with the Liaison Officer who is in communication with external authorities (e.g., health department)

☐ Ensure proper implementation of infectious patients surge plan, including:

• Location for off-site triage, as appropriate

• Proper rapid triage of people presenting/requesting evaluation. Coordinate with Security, if necessary

• Staff implementation of infection precautions, and higher level precautions for high risk procedures (e.g., suctioning, bronchoscopy, etc.), as per current CDC guidelines

• Proper monitoring of isolation rooms and isolation procedures

• Limit patient transportation within facility for essential purposes only

• Restrict number of clinicians and ancillary staff providing care to infectious patients

☐ Evaluate and determine health status of all persons prior to hospital entry

☐ Ensure safe collection, transport, and processing of laboratory specimens

☐ Report actions/information to Command staff/Section Chiefs/IC regularly, according to schedule

☐ Conduct hospital census and determine if discharges and appointment cancellations required

(Security):

• Implement facility lockdown to prevent infectious patients from entering the facility, except through designated route. Report regularly to Operations Section Chief

Planning

☐ Establish operational periods and develop Incident Action Plan:

- Engage other hospital departments

- Share Incident Action Plan through Incident Commander with these areas

- Provide instructions on needed documentation including completion detail and deadlines

☐ Implement patient/staff/equipment tracking protocols

☐ Report actions/information to Incident Commander, Command Staff, Section Chiefs regularly

Logistics

☐ Implement distribution plans for mass prophylaxis/immunizations for employees, their families, and others.

☐ Anticipate an increased need for medical supplies, antivirals, IV fluids and pharmaceuticals, oxygen, ventilators, suction equipment, respiratory protection/PPE, and respiratory therapists, transporters and other personnel

☐ Prepare for receipt of external pharmaceutical cache(s)/Strategic National Stockpile. Track dispersal of external pharmaceutical cache(s)/Strategic National Stockpile

☐ Determine staff supplementation needs and communicate to Liaison Officer

☐ Report actions/information to Command staff/Section Chiefs/IC regularly, according to schedule

Intermediate (Operational Period 2 - 12 Hours)

Command

(Incident Commander)

☐ Activate and implement emergency management plans, as indicated, including mass fatality plan

☐ Continue regular briefing of Command staff/Section Chiefs

(Information Officer):

☐ Establish a patient information center; coordinate with the Liaison Officer and local emergency management/ public health/EMS. Regularly brief local EOC, hospital staff, patients, and media

(Liaison Officer):

☐ Ensure integrated response with local EOC, JIC

☐ Communicate personnel/equipment/supply needs identified by Operations to local EOC

☐ Keep public health advised of any health problems/trends identified, in cooperation with infection control

☐ Integrate outside personnel assistance into Hospital Command Centre and hospital operations

☐ Discuss operational status with other area hospitals

☐ Brief Command staff/Section Chiefs regularly with information from outside sources

Operations

☐ Conduct disease surveillance, including number of affected patients/personnel

☐ Continue isolation activities as needed

☐ Consult with infection control for disinfection requirements for equipment and facility

☐ Continue patient management activities, including patient cohorting, patient/staff/visitor medical care issues

☐ Coordinate with Logistics implementation of mass vaccination/mass prophylaxis plan

☐ Determine scope and volume of supplies/equipment/personnel required and report to Logistics

☐ Implement local mass fatality plan (including temporary morgue sites) in cooperation with local/state public health, emergency management, and medical examiners. Assess capacity for refrigeration/security of deceased patients

Planning

☐ Continue patient tracking

☐ Document Incident Action Plan, as developed by IC and Section Chiefs and distribute appropriately

☐ Collect information regarding situation status and report to IC/Command staff/Section Chiefs regularly

☐ Plan for termination of incident

☐ Revise security plan and family visitation policy, as needed

Logistics

☐ Coordinate activation of staff vaccination/prophylaxis plan with Operations

☐ Monitor the health status of staff who are exposed to infectious patients

☐ Consider reassigning staff recovering from flu to care for flu patients; reassign staff at high risk for complications of flu (e.g., pregnant women, immunocompromised persons) to low risk duties (e.g., no flu patient care or administrative duties only)

☐ Establish Family Care Unit under Support Branch Director to address family/dependent care issues to maximize employee numbers at work

Finance

☐ Track response expenses and report regularly to Command staff and Section Chiefs

☐ Track and follow up with employee illnesses and absenteeism issues

Extended (Operational Period Beyond 12 Hours)

Command

(Incident Commander):

☐ Continue regular briefing of Command staff/Section Chiefs. Address issues identified

(Information Officer):

☐ Continue patient information centre, as necessary. Coordinate efforts with local/state public health resources/JIC

(Liaison Officer): Continue to

☐ Ensure integrated response with local EOC/JIC

☐ Communicate personnel/equipment/supply needs to local EOC

☐ Keep public health advised of any health problems/trends identified

Operations

☐ Continue patient management and facility monitoring activities. Communicate personnel/equipment/supply needs to local EOC

☐ Ensure proper disposal of infectious waste, including disposable supplies/equipment

Planning

Revise and update the IAP and distribute to IC, Command Staff and Section Chiefs

Logistics

☐ Continue monitoring the health status of staff exposed to infectious patients

☐ Continue addressing behavioral health support needs for patients/visitors/staff

☐ Continue providing equipment/supply/personnel needs

Finance

Continue to track response expenses and employee injury/illness and absenteeism

Demobilization/Recovery Period

Command

(Incident Commander):

☐ Provide appreciation and recognition to solicited and non-solicited volunteers, staff, state and federal personnel that helped during the incident

(Information Officer):

☐ Provide briefings as needed to patients/visitors/staff/media, in cooperation with JIC

(Liaison Officer):

Prepare a summary of the status and location of infectious patients. Disseminate to Command staff/Section Chiefs and to public health/EMS as appropriate

Operations

Restore normal facility operations and visitation

Logistics

☐ Conduct stress management and after-action debriefings and meetings as necessary

☐ Monitor health status of staff

☐ Inventory all EOC and hospital supplies and replenish as necessary

☐ Restore/repair/replace broken equipment

☐ Return borrowed equipment after proper cleaning/disinfection

Restore normal non-essential services (i.e., gift shop, etc.)

Planning

☐ Conduct after action review with HCC Command staff and Section Chiefs and general staff immediately upon demobilization or deactivation of positions

☐ Conduct after action debriefing with all staff, physicians and volunteer

☐ Prepare the after action report and improvement plan for review and approval

☐ Write after-action report and corrective action plan to include the following:

  • Summary of actions taken

  • Summary of the incident

  • Actions that went well

  • Area for improvement

Recommendations for corrective actions and future response actions

Finance

☐ Compile time, expense and claims reports and submit to IC for approval

Distribute approved reports to appropriate authorities for reimbursement

Code Orange (CBRN)
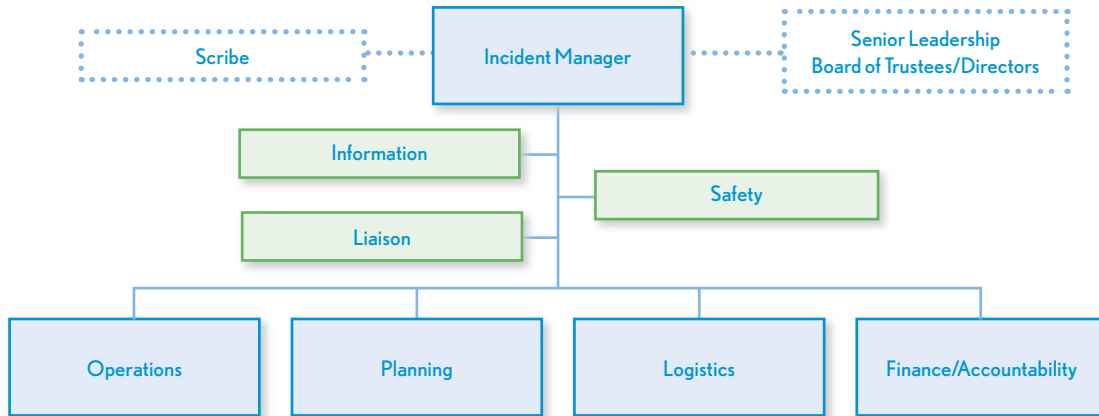
(Immediate (Operational Period 0-1 Hour)

Unit Command

Incident Manager (Designated Charge Person):

☐ Don the Incident Manager fluorescent vest

☐ Size-up current resources and equipment needs

☐ Activate and implement the Emergency Department decontamination plan

☐ Communicate situation status with organizational IM

☐ Support organizational-level command efforts as required

☐ Protect life safety of department personnel and patients

☐ Support next of kin as required

☐ Participate in command debriefing when called upon

Organizational Command

Incident Manager:

☐ Activate Command Centre

☐ Prepare to implement Code Orange-CBRN/HIMS response procedures

☐ Assign Command Centre Staff and Section Chiefs as appropriate (Code Orange and the HIMS Organizational Chart)

☐ If messaging has not come through Emergency Department first, notify Emergency Department of situation status

☐ Develop incident objectives and incident action plan

☐ Establish business cycle

☐ Notify Hospital CEO of situation status

☐ Ensure that incident is debriefed at conclusion of response

Liaison Officer

☐ Liaise with appropriate authorities (Police, Fire, HazMat)

☐ Contact surrounding facilities to alert to situation, surge capacity, bed availability, equipment needs etc.

Information Officer

☐ Prepare a media statement in the event that a broadcast message is requested

☐ Prepare for activation of the Media Centre

☐ Conduct Media briefings and situation updates as required

Safety

☐ Assess and anticipate unsafe situations that might arise from staff proceeding with decontamination. Alert staff to any hazardous conditions throughout the facility

☐ Recommend CBRN-specific procedures and/or measures for staff safety

☐ Evaluate need personal protective equipment (PPE) and CBRN-related

☐ Be prepared to temporarily stop work and / or prevent unsafe acts until safety conditions met

Operations

☐ Implement the decontamination response procedures

☐ Identify areas of patient decontamination, triage and treatment

☐ Ensure proper use of PPE and staff monitoring procedures

☐ If shelter-in-place is determined, implement procedures at the direction of the Incident Manager

Planning

☐ Establish operational periods, incident objectives and Incident Action Plan, in collaboration with Incident Manager

☐ Identify and contact Technical Advisory personnel (if available)

☐ Research relevant information for CBRN event

☐ Prepare to receive and assign personnel and volunteers as appropriate

☐ Provide census and bed availability information to Incident Manager

☐ Activate surge plan and patient registration and tracking procedures

☐ Receive all incident documentation and collate

☐ Prepare after action report

Logistics

☐ Prepare to implement facility lockdown procedures

☐ Implement egress/access restriction procedures and perimeter control

☐ Prepare to shutdown HVAC system to part or all of facility

☐ Provide security support to organization where required

☐ Secure perimeters

☐ Execute lockdown procedures

☐ Provide required equipment and supplies

(Intermediate Operational Period 2-12 Hours)

Organizational Command

Incident Manager:

☐ Hold Business Cycle Meeting with Command Staff and Section Chiefs to establish situation status

☐ Continue to bring command staff together to discuss search progress and readjust incident objectives as required

☐ Update and revise the Incident Action Plan as required

☐ Confer with Physician and Senior Administration regarding what further action is required

Information Officer

☐ Continue to monitor media

☐ Develop briefings and updates for staff

☐ Coordinate communication with external responders as required

Safety

☐ Monitor safety conditions and develop measures to ensure the safety of all assigned staff throughout the emergency situation

☐ Ensure staff is routinely relieved, rested and hydrated

☐ Evaluate need for additional equipment and communicate need to Logistics as required

Liaison Officer

☐ Continue to liaise with appropriate authorities (Police)

☐ Update with surrounding facilities

☐ Seek updates from Emergency Department, External Responders, Area Hospitals and communicate to the Incident Manager

Operations

☐ Continue with decontamination response procedures

☐ Provide situation status to Incident Manager

☐ Ensure proper waste and material disposal through Logistics

Planning

☐ Continue to support incident needs

☐ Set up family centre as required and provide staffing

☐ Arrange for further personnel as required

☐ Monitor documentation efforts and collate results as search proceeds

Logistics

☐ Continue to provide security support to organization

☐ Continue to monitor facility access and egress

☐ Monitor HVAC concerns

☐ Monitor facility grounds for traffic concerns

☐ Continue to support facility response by providing appropriate materials and equipment as required

Extended (Operational Period Beyond 12 Hours) Leading to Demobilization/Organizational Recovery

Organizational Command

Incident Manager

If patient located/not located:

☐ Declare demobilization of Code Orange-CBRN status (Stand-down or clear Code)

☐ Notify Senior Administration

☐ Arrange debriefing with Command Staff

☐ Ensure Planning submits all documentation including search results

☐ Deactivate command centre

Information Officer

☐ Debrief section staff

☐ Conduct final medial briefing providing situation status and termination of incident

☐ Prepare written notification to staff of stand-down status

Safety

☐ Ensure that staff is provided with appropriate rest and respite as required

☐ Investigate accidents that may have occurred during the search proceedings

Liaison Officer

- ☐ Debrief section staff
- ☐ Notify area hospitals of status
- ☐ Notify next of kin as required
- ☐ Participate in command debriefing

Operations

- ☐ Debrief section staff
- ☐ Ensure clean-up procedures are initiated
- ☐ Return equipment to appropriate location
- ☐ Restore patient care and facility to normal operations
- ☐ Ensure all documentation is collected
- ☐ Participate in command debriefing

Planning

- ☐ Debrief section staff
- ☐ Finalize the Incident Action Plan and demobilization
- ☐ Participate in command debriefing
- ☐ Ensure all documentation is archived appropriately as per Hospital protocols
- ☐ Write After Action Report and corrective action plan to include:
- ☐ Summary of incident
- ☐ Summary of actions taken
- ☐ Summary of actions that worked well/did not work well
- ☐ Recommendations for future Code Orange-CBRN response proceedings
- ☐ Submit After Action Report to Incident Manager within regulated time frame

Logistics

- ☐ Ensure that hat all loaned equipment is returned and readied for future responses

Finance

- ☐ Calculate total costs of response
- ☐ Provide compensation for staff hours as required
- ☐ Attend event debriefing

Code Red

Key — Inactive Position — Active Position

Fire Chief

Senior Leadership Board/Trustees

Incident Manager

Scribe/Recorder

Liaison

Safety

Information

Finance/Administration
- Procurement Reimbursement Payment
  - Materials Equipment Supply
  - Total Costs
- Compensation
  - Claims
  - Staffing Costs

Logistics
- Supply Chain
  - Transportation
  - Nutrition
  - Materials Medical Supplies
  - Biomedical Devices
  - Telecommunication
  - Information Technology
- Facilities
  - Fire/Security
    - Life Safety
    - Perimeter
    - Access/Egress
  - Damage Assessment
  - Facility Status
  - HVAC Sanitation

Planning
- Planning Support
  - Technical Advisory
  - Incident Action Plan
  - Patient Tracking
  - Situation Status
  - Research
  - Demobilizing Recovery
  - Document After Action
- Human Resources
  - Family Information
  - Volunteers
  - Psych Support
  - Pastoral Care
  - Labour Pool
  - Medical Staffing
  - Nursing Staffing
  - Staff Support

Operations
- Medical Care
  - Emergency Treatment
  - Triage
  - Immediate Care
  - Delayed Care
  - Minor Care
  - Discharge
  - Morgue
  - Inpatient Areas
  - Critical Care
  - Surgical Services
  - Maternal Child
  - Ambulatory
  - Decontamination Hazmat
  - Holding Areas
  - Red Holding
  - Yellow Holding
  - Green Holding
  - Document Discharge
- Clinical Support
  - Diagnostic Imaging
  - Pharmacy
  - Respiration Therapy
  - Laboratory Services

Code White

Key — Inactive Position / Active Position

Incident Manager
- Senior Leadership Board/Trustees
- Scribe/Recorder
- Liaison
- Safety
- Information

Finance/Administration
- Procurement Reimbursement Payment
  - Materials Equipment Supply
  - Total Costs
- Compensation
  - Claims
  - Staffing Costs

Logistics
- Supply Chain
  - Transportation
  - Nutrition
  - Materials Medical Supplies
  - Biomedical Devices
  - Telecommunication
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  - Life Safety
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  - Ambulatory
  - Holding Areas
  - Red Holding
  - Yellow Holding
  - Green Holding
  - Document Discharge
- Clinical Support
  - Diagnostic Imaging
  - Pharmacy
  - Respiration Therapy
  - Laboratory Services

Code Green

Code Brown

Key

Inactive Position

Active Position

Senior Leadership Board/Trustees

Scribe/Recorder

Incident Manager

- Liaison
- Safety
- Information

Finance/Administration
- Procurement Reimbursement Payment
  - Materials Equipment Supply
  - Total Costs
- Compensation
  - Claims
  - Staffing Costs

Logistics
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    - Nutrition
    - Materials Medical Supplies
    - Biomedical Devices
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    - Yellow Holding
    - Green Holding
    - Document Discharge
  - Diagnostic Imaging
    - Pharmacy
    - Respiration Therapy
    - Laboratory Services

(Immediate Operational Period 0-1 Hours)

Unit Command

Incident Manager:

☐ If possible, immediately evacuate patients/visitors/family members/staff from the immediate area to a protected area

☐ Request assistance from and communicate situation status to hospital operator/switchboard)

☐ Prepare for potential Fire Department/Hazmat intervention and transfer of situation command to Fire Department

☐ Participate in command debriefing when called upon at the resolution of the incident

Organizational Command

Incident Manager:

☐ In event of an unmanageable spill, activate Command Centre

☐ Assume organizational command

☐ Prepare to implement Code Brown and potential evacuation response procedures

☐ Assign Command Centre Staff and Section Chiefs as appropriate (Code Brown-In- facility Chemical Spill/ HIMS Response Procedures)

☐ Establish unified command with Fire Department/Hazmat upon their arrival

☐ Establish areas to be evacuated in immediate area of incident

☐ Develop incident objectives and incident action plan

☐ Establish Business Cycle

☐ Notify Hospital CEO of situation status

Liaison

- ☐ Liaise with appropriate authorities (Fire/Hazmat) as required
- ☐ Be prepared to contact surrounding facilities to alert to situation and potential need for evacuation
- ☐ Be prepared for ambulance diversion (bypass) to area facilities until at which time situation is cleared
- ☐ Provide any required space/information for Fire/Hazmat responders

Information

- ☐ Communicate with organizational staff about situation
- ☐ Prepare for activation and staffing of the Media Centre as required
- ☐ Prepare situation status updates for staff as required

Safety

Occupational Health and Safety

- ☐ Collaborate with Security and/or Fire Department/Hazmat (through Liaison) on safe evacuation of staff to protected areas
- ☐ Provide information (MSDS) for identification of chemicals/hazardous materials if available
- ☐ Seek situation status from Code Brown Response Team
- ☐ Prepare for crisis intervention support of staff as required

Operations

Medical Care

- ☐ Implement the Code Brown response procedures
- ☐ Ensure continuation of hospital patient care activities in unaffected areas
- ☐ Monitor requirements for evacuated services
- ☐ Prepare for care of injured (if any) in a safe zone

Planning

Human Resources/Planning Support

- ☐ Assess need for activation of Labour Pool for possible evacuation
- ☐ Establish operational periods, incident objectives and Incident Action Plan, in collaboration with Incident Command/Management
- ☐ Prepare to receive and assign personnel and volunteers as appropriate
- ☐ In collaboration with are for crisis intervention support of patients/visitors/staff
- ☐ Implement patient tracking procedures related to evacuation relocations
- ☐ Activate Family Information Centre and designated staffing as required

☐ When/if required, activate Labour Pool to assist with area evacuations

☐ Receive all incident documentation and collate

☐ Be prepared to develop after action report

Logistics

Facilities/Supply Chain

☐ Prepare to implement Code Brown response procedures

☐ Secure perimeters of immediate area to restrict entrance of non-essential personnel

☐ Execute lockdown procedures and monitor facility access and egress

☐ Prepare to take direction from external responders (Fire/Hazmat Responders)

☐ Provide facility floor plans (schematics) to external responders (Police/Hazmat)

☐ Implement traffic control on hospital property to enable access of responding vehicles

☐ Prepare to shut down HVAC system

☐ Prepare to assess facility damage

☐ Prepare to provide transportation assistance for evacuation efforts

Finance

☐ Prepare to track response costs and expenditures

(Intermediate Operational Period 2-12 Hours)

Command-Organizational Level

Command

Incident Manager:

☐ Hold Business Cycle Meeting with Command Staff and Section Chiefs to establish situation status

☐ Continue to bring command staff together to discuss situation status and readjust incident objectives as required

☐ Update and revise the Incident Action Plan as required

☐ Confer with external responders (Fire/Hazmat Incident Command as required

☐ Confer with CEO regarding what further action is required

Information

☐ Continue to monitor media and provide scheduled media briefings

☐ Develop briefings and updates for patients/visitors/staff/family members

Liaison

☐ Continue to liaise with appropriate authorities (Fire/Hazmat Responders)

☐ Update with surrounding facilities

Safety

Occupational Health and Safety

☐ Collaborate with Security regarding status of evacuation efforts

☐ Seek situation status from Code Brown Response Team

☐ Direct injured staff to Emergency Department for treatment

Operations

Medical Care

☐ Continue with Code Brown/HIMS Response Procedures

☐ Provide status information to Incident Manager

☐ Receive updates from the evacuated services through Planning

Planning

Human Resources/Planning Support

☐ In collaboration with the Incident Manager, adjust the incident objectives and Incident Action Plan

☐ Monitor the need for crisis intervention support to patients/visitors/family members/staff

☐ Monitor patient tracking procedures related to evacuation relocations

☐ Monitor Family Information Centre activity (if activated)

☐ Receive all incident documentation and collate

☐ Prepare to develop after action report

☐ Begin to prepare demobilization and system recovery activities

Logistics

Facilities / Supply Chain

☐ Continue to provide Security support to Police

☐ Continue to secure perimeters of immediate areas

☐ Continue to monitor facility access and egress

Finance

☐ Tracks response costs and expenditures

Extended (Operational Period Beyond 12 Hours) Leading to Demobilization/Organizational Recovery

Command-Organizational Level

Command

Incident Manager

Once situation resolves:

☐   Declare demobilization of Code Brown status ('Stand-down' or 'clear Code')

☐   Notify Senior Administration

☐   Arrange debriefing with Command Staff

☐   Ensure that incident is debriefed at conclusion of response

☐   Deactivate command centre

Information Officer

☐   Debrief section staff

☐   Conduct final medial briefing providing situation status and termination of incident

☐   Prepare written notification to staff of 'stand-down' status

Liaison

☐   Debrief section staff

☐   Debrief with external Fire/Hazmat responders

☐   Notify surrounding facilities of Code Brown resolution and provide timeline for return to normal service delivery

☐   Participate in Command debriefing

Safety

Occupational Health and Safety

☐   Debrief section staff

☐   Prepare to address any safety concerns that transpired during event

☐   Participate in Command debriefing

Operations

Medical Care

☐   Debrief section staff

☐   Participate in Command debriefing

Planning

Human Resources/Planning Support

☐   Debrief section staff

☐   Finalize the Incident Action Plan and demobilization

☐   Participate in command debriefing

☐   Ensure all documentation is archived appropriately as per Hospital protocols

☐   Write After Action Report and corrective action plan to include:

   • Summary of incident

   • Summary of actions taken

   • Summary of actions that worked well/did not work well

   • Recommendations for future Code Brown-In-facility Chemical Spill/HIMS Incident Response Procedures

☐   Submit After Action Report to Incident Commander within regulated timeframe

Logistics

Facilities/Chain of Command

☐   Debrief section staff

☐   Participate in command debriefing

☐   Ensure that any loaned equipment is returned and readied for future responses

Finance

☐   Prepare total costs and provide information to Incident Manager and Planning

Code Purple

Key
Inactive Position
Active Position

Incident Manager

Police
Senior Leadership Board/Trustees
Scribe/Recorder
Liaison
Safety
Information

Finance/Administration
- Procurement Reimbursement Payment
  - Materials Equipment Supply
  - Total Costs
- Compensation
  - Claims
  - Staffing Costs

Logistics
- Supply Chain
  - Transportation
  - Nutrition
  - Materials Medical Supplies
  - Biomedical Devices
  - Telecommunication
  - Information Technology
- Facilities
  - Fire/Security
  - Life Safety
  - Perimeter
  - Access/Egress
  - Damage Assessment
  - Facility Status
  - HVAC Sanitation

Planning
- Planning Support
  - Technical Advisory
  - Incident Action Plan
  - Patient Tracking
  - Situation Status
  - Research
  - Demobilizing Recovery
  - Document After Action
- Human Resources
  - Family Information
  - Volunteers
  - Psych Support
  - Pastoral Care
  - Labour Pool
  - Medical Staffing
  - Nursing Staffing
  - Staff Support

Operations
- Medical Care
  - Emergency Treatment
  - Triage
  - Immediate Care
  - Delayed Care
  - Minor Care
  - Discharge
  - Morgue
  - Inpatient Areas
  - Critical Care
  - Surgical Services
  - Maternal Child
  - Ambulatory
  - Decontamination Hazmat
- Clinical Support
  - Holding Areas
  - Red Holding
  - Yellow Holding
  - Green Holding
  - Document Discharge
  - Diagnostic Imaging
  - Pharmacy
  - Respiration Therapy
  - Laboratory Services

Code Purple

(Immediate Operational Period 0 – 1 Hour)

Command

Incident Manager (Designated Charge Person):

☐ If possible, immediately evacuate patients/visitors/personnel from area of danger to protected area

☐ If able, request assistance from and communicate situation status to hospital operator/switchboard

☐ Prepare for police intervention and transfer of situation command to police

☐ Participate in command debriefing when called upon at the resolution of the incident

Organizational Command

Incident Manager:

☐ Activate Command Centre

☐ Assume organizational command

☐ Prepare to implement Code Purple response procedures

☐ Assign Command Centre Staff and Section Chiefs as appropriate (see Code Purple-Hostage Taking/HIMS Incident Response)

  • Establish unified command with police upon their arrival

  • Establish areas to be evacuated in immediate area of incident

  • Develop incident objectives and incident action plan

  • Establish business cycle

  • Notify Hospital CEO of situation status

Liaison

☐ Liaise with appropriate authorities (Police)

☐ Contact surrounding facilities to alert to situation and potential need for evacuation

☐ Arrange for ambulance diversion (bypass) to area facilities until at which time situation is cleared

☐ Liaise with staff/family/significant others

Public Information

☐ Communicate with organizational staff about situation

☐ Prepare a media statement in the event that a broadcast message is requested

☐ Prepare for activation and staffing of the Media Centre

☐ Conduct Media briefings and situation updates as required

Safety

☐ Prepare for crisis intervention support of staff

☐ Collaborate with Security and/or Police (through Liaison) on safe evacuation of staff to protected areas

Operations

☐ Implement the Code Purple response procedures

☐ Suspend nonessential services for duration of incident

☐ Ensure continuation of hospital patient care activities

☐ Monitor requirements evacuated services

☐ Provide any required space/information for police responders

☐ Prepare for care of injured in a safe zone

Planning

☐ Establish operational periods, incident objectives and Incident Action Plan, in collaboration with Incident Manager

☐ Prepare to receive and assign personnel and volunteers as appropriate

☐ Prepare for crisis intervention support of patients/visitors/staff

☐ Implement patient tracking procedures related to evacuation relocations

☐ Activate Family Information Centre and designated staffing

☐ When/if required, activate Labour Pool to assist with area evacuations

☐ Receive all incident documentation and collate

☐ Be prepared to develop after action report

Logistics (Security)

☐ Prepare to implement Code Purple response procedures

☐ Secure perimeters of immediate area to restrict entrance of non-essential personnel

☐ Execute lockdown procedures and monitor facility access and egress

☐ Prepare to take direction from external responders (Police)

☐ Provide facility floor plans (schematics) to external responders (Police)

☐ Implement traffic control on hospital property to enable access of responding vehicles

Finance

☐ Prepare to track response costs and expenditure

(Intermediate Operational Period 2-12 Hours)

Organizational Command

Incident Manager:

☐ Hold Business Cycle Meeting with Command Staff and Section Chiefs to establish situation status

☐ Continue to bring command staff together to discuss situation status and readjust incident objectives as required

☐ Update and revise the Incident Action Plan as required

☐ Confer with external responders (Police) Incident Command as required

☐ Confer with CEO regarding what further action is required

Public Information

☐ Continue to monitor media and provide scheduled media briefings

☐ Develop briefings and updates for patients/visitors/staff/family members

Liaison

☐ Continue to liaise with appropriate authorities (Police)

☐ Update with surrounding facilities

☐ Brief family/significant others on situation status

Safety

☐ Collaborate with Security regarding status of evacuation efforts

☐ Direct injured staff to Emergency Department for treatment

Operations

☐ Continue with hostage taking response procedures

☐ Receive updates from the evacuated services

Planning

☐ In collaboration with the Incident Manager, adjust the incident objectives and Incident Action Plan

☐ Monitor the need for crisis intervention support to patients/visitors/family members/staff

☐ Monitor patient tracking procedures related to evacuation relocations

☐ Monitor Family Information Centre activity

☐ Receive all incident documentation and collate

☐ Prepared to develop After Action Report

☐ Begin to prepare demobilization and system recovery activities

Logistics (Security)

☐ Continue to provide security support to Police

☐ Continue to secure perimeters of immediate areas

☐ Continue to monitor facility access and egress

Finance

☐ Track response costs and expenditures

Extended Operational Period Beyond 12 Hours
Leading to Demobilization/Organizational Recovery

Organizational Command

Incident Manager

Once situation resolves:

☐ Declare demobilization of Code Purple-Hostage Taking status ('Stand-down' or 'clear Code')

☐ Notify Senior Administration

☐ Arrange debriefing with Command Staff

☐ Ensure that incident is debriefed at conclusion of response

☐ Deactivate Command Centre

Public Information

☐   Debrief section staff

☐   Conduct final medial briefing providing situation status and termination of incident

☐   Prepare written notification to staff of 'stand-down' status

Liaison

☐   Debrief section staff

☐   Debrief with Police

☐   Notify surrounding facilities of Code Purple resolution and provide timeline for return to normal service delivery

☐   Participate in Command debriefing

Safety

☐   Provide information regarding status of injured to Incident Manager

☐   Monitor return of evacuees to designated areas

☐   Participate in Command debriefing

Operations

☐   Debrief section staff

☐   Participate in Command debriefing

Planning

☐   Debrief section staff

☐   Finalize the Incident Action Plan and demobilization

☐   Participate in command debriefing

☐   Ensure all documentation is archived appropriately as per Hospital protocols

☐   Write After Action Report and corrective action plan to include:

  • Summary of incident

  • Summary of actions taken

  • Summary of actions that worked well/did not work well

  • Submit After Action Report to Incident Commander within regulated timeframe
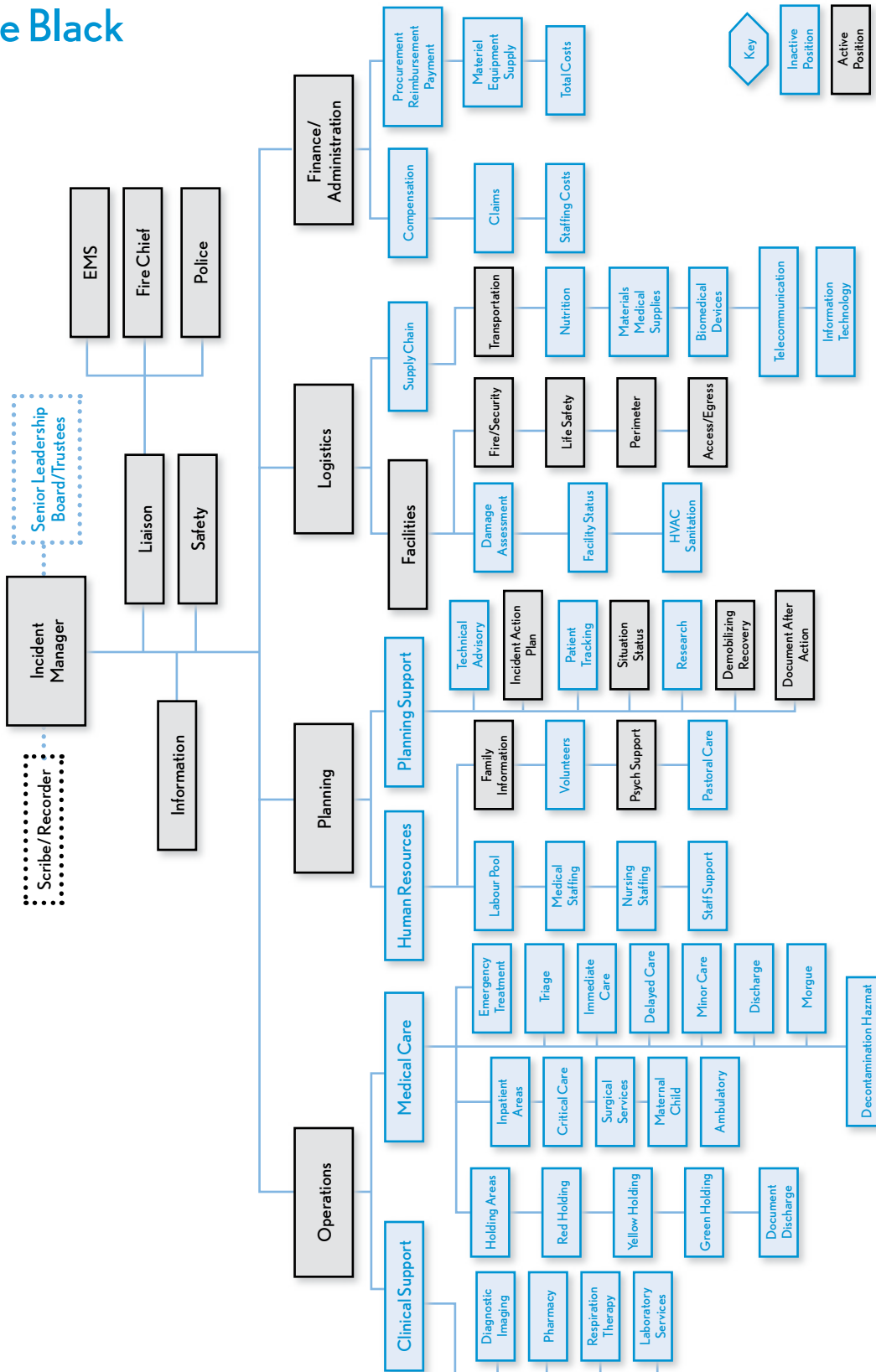
Logistics (Security)

☐ Debrief section staff

☐ Participate in command debriefing

☐ Ensure that all loaned equipment is returned and readied for future responses

☐ Continue to provide security support to Police

☐ Continue to secure perimeters of immediate areas
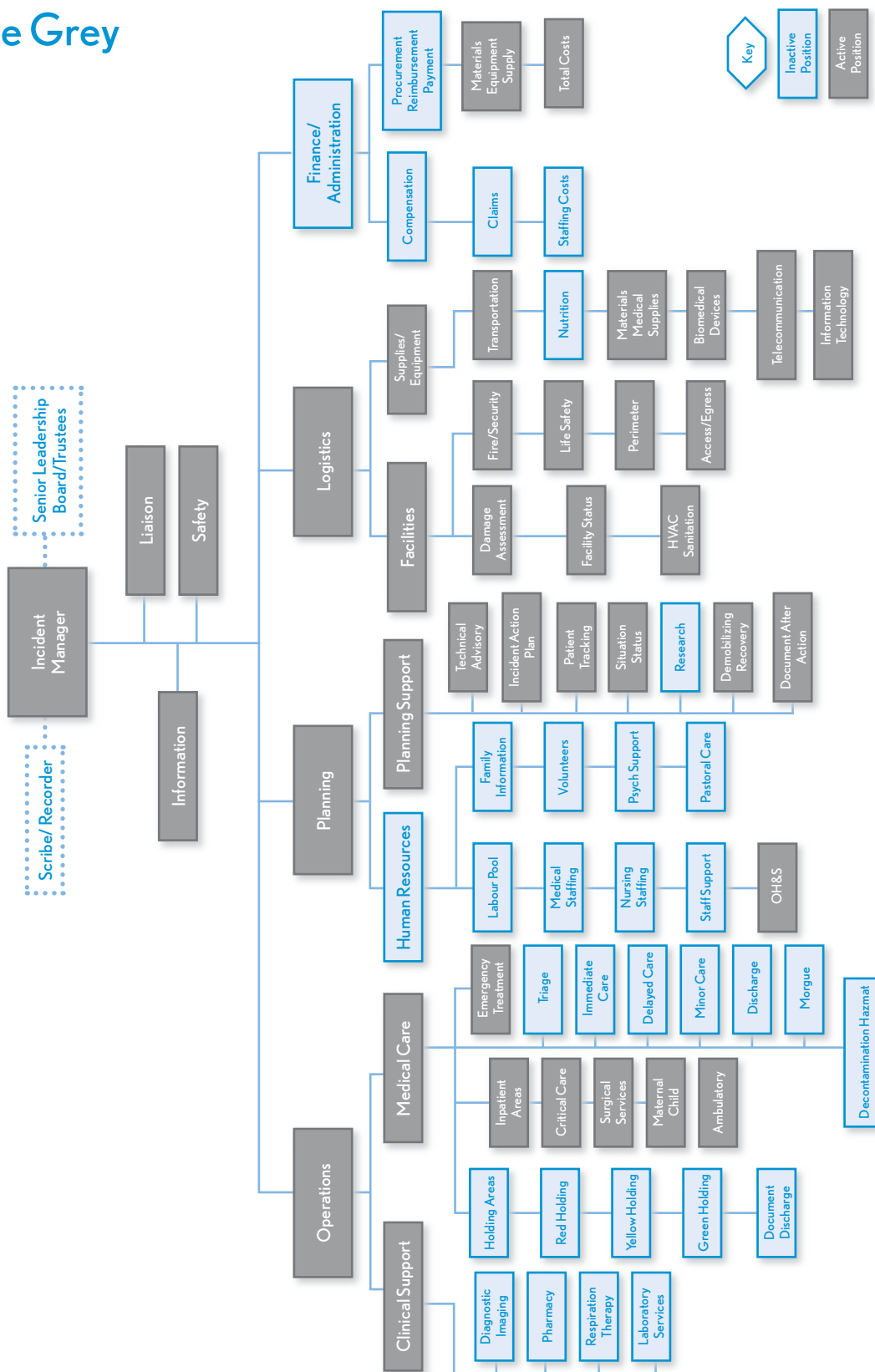
☐ Continue to monitor facility access and egress

Finance

☐ Prepare statement of any response costs and expenditures

Code Black

Key — Inactive Position — Active Position

Incident Manager

Scribe/Recorder

Senior Leadership Board/Trustees

EMS — Fire Chief — Police

Liaison — Safety

Information

Finance/Administration
- Procurement Reimbursement Payment
  - Materiel Equipment Supply
  - Total Costs
- Compensation
  - Claims
  - Staffing Costs

Logistics
- Supply Chain
  - Transportation
  - Nutrition
  - Materials Medical Supplies
  - Biomedical Devices
  - Telecommunication
  - Information Technology
- Facilities
  - Fire/Security
  - Life Safety
  - Perimeter
  - Access/Egress
  - Damage Assessment
  - Facility Status
  - HVAC Sanitation

Planning
- Planning Support
  - Technical Advisory
  - Incident Action Plan
  - Patient Tracking
  - Situation Status
  - Research
  - Demobilizing Recovery
  - Document After Action
  - Family Information
  - Volunteers
  - Psych Support
  - Pastoral Care
- Human Resources
  - Labour Pool
  - Medical Staffing
  - Nursing Staffing
  - Staff Support

Operations
- Medical Care
  - Emergency Treatment
  - Triage
  - Immediate Care
  - Delayed Care
  - Minor Care
  - Discharge
  - Morgue
  - Inpatient Areas
  - Critical Care
  - Surgical Services
  - Maternal Child
  - Ambulatory
  - Decontamination Hazmat
- Clinical Support
  - Holding Areas
  - Red Holding
  - Yellow Holding
  - Green Holding
  - Document Discharge
  - Diagnostic Imaging
  - Pharmacy
  - Respiration Therapy
  - Laboratory Services

Code Grey

Key
- Inactive Position
- Active Position

Incident Manager
- Senior Leadership Board/Trustees
- Scribe/Recorder
- Liaison
- Safety
- Information

Finance/Administration
- Procurement Reimbursement Payment
  - Materials Equipment Supply
  - Total Costs
- Compensation
  - Claims
    - Staffing Costs

Logistics
- Supplies/Equipment
  - Transportation
  - Nutrition
  - Materials Medical Supplies
  - Biomedical Devices
  - Telecommunication
  - Information Technology
- Facilities
  - Fire/Security
    - Life Safety
    - Perimeter
    - Access/Egress
  - Damage Assessment
  - Facility Status
  - HVAC Sanitation

Planning
- Planning Support
  - Technical Advisory
  - Incident Action Plan
  - Patient Tracking
  - Situation Status
  - Research
  - Demobilizing Recovery
  - Document After Action
  - Family Information
  - Volunteers
  - Psych Support
  - Pastoral Care
- Human Resources
  - Labour Pool
  - Medical Staffing
  - Nursing Staffing
  - Staff Support
  - OH&S

Operations
- Medical Care
  - Emergency Treatment
    - Triage
    - Immediate Care
    - Delayed Care
    - Minor Care
    - Discharge
    - Morgue
    - Decontamination Hazmat
  - Inpatient Areas
  - Critical Care
  - Surgical Services
  - Maternal Child
  - Ambulatory
  - Holding Areas
    - Red Holding
    - Yellow Holding
    - Green Holding
    - Document Discharge
- Clinical Support
  - Diagnostic Imaging
  - Pharmacy
  - Respiration Therapy
  - Laboratory Services

(Immediate Operational Period 0-1 Hours)

Unit Command

Incident Manager:

☐ Identify nature of problem and communicate to supervisory staff

☐ Request assistance from and communicate situation status to hospital operator/switchboard)

☐ Prepare for potential internal/external intervention as necessitated by nature of incident

☐ Participate in command debriefing when called upon at the resolution of the incident

Organizational Command

Incident Manager:

☐ In event of a potentially prolonged event, activate Command Centre

☐ Assume organizational command

☐ If required, suggest a move patients/visitors/family members/staff from the involved area to a serviced area

☐ Prepare to implement Code Grey response procedures

☐ Assign Command Centre Staff and Section Chiefs as appropriate

☐ Establish further areas to be evacuated if affected

☐ Notify local emergency management services as required

☐ Develop incident objectives and incident action plan

☐ Establish Business Cycle

☐ Notify Hospital CEO of situation status as required

Liaison

☐ Liaise with appropriate authorities as required

☐ Be prepared to contact surrounding facilities to alert to situation and potential need for assistance

☐ Be prepared for ambulance diversion (bypass) to area facilities until at which time situation is cleared

☐ Provide any required space/information for incident responders

Public Information

☐ Communicate with organizational staff about situation

☐ Prepare for activation and staffing of the Media Centre as required

☐ Prepare situation status updates for staff as required

Safety

Occupational Health and Safety

☐ Collaborate with Security (through Liaison) on safe evacuation of staff to protected areas

☐ Seek situation status from Code Grey Response personnel

Operations

Medical Care

☐ Grey response procedures

☐ Ensure continuation of hospital patient care activities in unaffected areas

☐ Monitor requirements for evacuated services

☐ Implement any required heating/cooling

☐ Prepare for care of injured (if any) in a safe zone

Planning

Human Resources/Planning Support

☐ Assess need for activation of Labour Pool for possible evacuation

☐ Establish operational periods, incident objectives and Incident Action Plan, in collaboration with Incident Command/Management

☐ Prepare to receive and assign personnel and volunteers as appropriate

☐ In collaboration with prepare for crisis intervention support of patients/visitors/staff

☐ Implement patient tracking procedures related to evacuation relocations

☐ Activate Family Information Centre and designated staffing as required

☐ When/if required, activate Labour Pool to assist with area evacuations

☐ Receive all incident documentation and collate

☐ Be prepared to develop after action report

Logistics

Facilities/Supply Chain

☐ Prepare to implement Code Grey response procedures

☐ Prepare to assess facility damage

☐ Secure perimeters of immediate area to restrict entrance of non-essential personnel

☐ Monitor facility access and egress

☐ Prepare to take direction from external responders (if any)

☐ Provide facility floor plans (schematics) to external responders

☐ Implement traffic control on hospital property to enable access of responding vehicles

☐ Provide transportation assistance for possible evacuation

☐ Prepare damage reports of HVAC system and project loss impact and repair schedule

☐ Provide and maintain alternate systems

☐ Prepare to provide transportation assistance for evacuation efforts

Finance

☐ Prepare to track response costs and expenditures

(Intermediate Operational Period 2-12 Hours)

Command-Organizational Level

Command

Incident Manager:

☐ Hold Business Cycle Meeting with Command Staff and Section Chiefs to establish situation status

☐ Continue to bring command staff together to discuss situation status and readjust incident objectives as required

☐ Update and revise the Incident Action Plan as required

☐ Confer with external responders as required

☐ Confer with CEO regarding what further action is required

Information

☐ Continue to monitor media and provide scheduled media briefings

☐ Develop briefings and updates for patients/visitors/staff/family members

Liaison

☐ Continue to liaise with appropriate authorities

☐ Update with surrounding facilities

Safety

Occupational Health and Safety

☐ Collaborate with Security regarding status of evacuation efforts

☐ Seek situation status from Code Grey Response Personnel

☐ Direct injured staff to Emergency Department for treatment

Operations

Medical Care

☐ Continue with Code Grey/HIMS Response Procedures

☐ Provide status information to Incident Manager

☐ Receive updates from the evacuated services through Planning

Planning

Human Resources/Planning Support

☐ In collaboration with the Incident Manager, adjust the incident objectives and Incident Action Plan

☐ Monitor the need for crisis intervention support to patients/visitors/family members/staff

☐ Monitor patient tracking procedures related to evacuation relocations

☐ Monitor Family Information Centre activity (if activated)

☐ Receive all incident documentation and collate

☐ Prepare to develop after action report

☐ Begin to prepare demobilization and system recovery activities

Logistics

Facilities / Supply Chain

☐ Continue to provide Security support

☐ Continue to secure perimeters of immediate areas

☐ Continue to monitor facility access and egress

Finance

☐ Tracks response costs and expenditures

Extended (Operational Period Beyond 12 Hours) Leading to Demobilization/Organizational Recovery

Command-Organizational Level

Command

Incident Manager

Once situation resolves:

☐ Declare demobilization of Code Grey status ('Stand-down' or 'clear Code')

☐ Notify Senior Administration

☐ Arrange debriefing with Command Staff

☐ Ensure that incident is debriefed at conclusion of response

☐ Deactivate command centre

Information Officer

☐ Debrief section staff

☐ Conduct final medial briefing providing situation status and termination of incident

☐ Prepare written notification to staff of 'stand-down' status

Liaison

☐ Debrief section staff

☐ Debrief with external Fire/Hazmat responders

☐ Notify surrounding facilities of Code Grey resolution and provide timeline for return to normal service delivery

☐ Participate in Command debriefing

Safety

Occupational Health and Safety

☐ Debrief section staff

☐ Prepare to address any safety concerns that transpired during event

☐ Participate in Command debriefing

Operations

Medical Care

☐ Debrief section staff

☐ Restore normal patient operations

☐ Participate in Command debriefing

Planning

Human Resources/Planning Support

☐ Debrief section staff

☐ Finalize the Incident Action Plan and demobilization

☐ Participate in command debriefing

☐ Ensure all documentation is archived appropriately as per Hospital protocols

☐ Write After Action Report and corrective action plan to include:

  • Summary of incident

  • Summary of actions taken

  • Summary of actions that worked well/did not work well

  • Recommendations for future Code Grey/HIMS Incident Response Procedures

☐ Submit After Action Report to Incident Commander within regulated timeframe

Logistics

Facilities/Chain of Command

☐ Debrief section staff

☐ Participate in command debriefing

☐ Ensure that any loaned equipment is returned and readied for future responses

Finance

☐ Prepare total costs and provide information to Incident Manager and Planning

Table: Educational Matrix

What is this? A table that allows hospitals to prioritize education learning objectives and develop an approach to implementation.

Why is it useful? Provides a comprehensive snapshot of the current status of different activities. The plan must be supported by a practical work plan, feasible schedule, budget, and current curriculum.

How to use it? List all of the learning objectives and complete the additional columns provided. In some cases the priority levels may differ for different target audiences listed or there may be more than one activity/method chosen. This could increase the complexity of the chart and work that needs to be done. Keep things simple.

Learning Objective	Priority Level	Target Audience	Activities/ Methods	Roles/ Responsibility	Supportive Infrastructure	Schedule	Status

Where: Priority level is on a 1-5 scale where 1 indicates must do immediately, 2 High, 3 medium, 4 low, and 5 not required. Activities include: conferences. Workshops, webcasts, e-learning modules, fact sheets, lunch and learns, etc. Roles and Responsibilities span expertise in the hospital (i.e. Infection prevention and control, occupational health and safety), and external stakeholders (i.e. public health unit, regional infection control networks, OHA). Supportive Infrastructure includes signage, computers, hand hygiene stations. Status includes completed, incomplete (and date), outstanding (i.e. awaiting release from the MOHLTC).

Target audience: All staff, level 1 (basic), level 2 (medium), level 3 (advanced). Examples of level 3 could be individuals who participate as part of the hospital CBRN team.

Same example references to assist with plan development:

1. Christian, M, kollek, D. and Schwartz, B; Emergency Preparedness: what every health care worker needs to know; Canadian Journal of Emergency Medicine (2005); 7 (5): 330-7

2. HSU.E, et al (2006) Healthcare Worker Competencies for Disaster Training. BMC Medical Education 2006, 6:19. www.biomedcentral.com/1472-6920/6/19

3. Recommended Hospital Staff Care Competencies for Disaster Preparedness. State of Florida Recommended Care Competencies and Planning/Mitigation Strategies for Hospital Personnel Published April 2004.

Template: After Action Report (AAR)

What is this? A tool designed to assist the hospital in capturing lessons learned, areas for improvement, and potential solutions for updating policies, plans and procedures. Used with permission of Kingston General Hospitals.

Why is it useful? Helps the hospital to structure evaluation and feedback in terms of how well goals and objectives were met, analyze the process and outcomes, and consolidate questions and reflections of participants.

How to use it? Complete the necessary fields.

KINGSTON HOSPITALS — OFFICE OF EMERGENCY MANAGEMENT, SECURITY & LIFE SAFETY

76 Stuart Street Kingston, Ontario K7L 2V7 Phone: 613-549-6666 #4218 Fax: 613-548-2385

INCIDENT DEBRIEFING

☐ Actual Event   ☑ Exercise or Drill

Synopsis of Event:

On May 27th, 2008 at 1400 hrs the Kingston General Hospital Incident Management Planning Committee, held a Code White & Purple (Violent Episode & Hostage Taking) exercise. During this simulation, a visitor became violent resulting in a Code White. The visitor revealed a hidden weapon and a nurse was taken hostage. A Code Purple was declared. A simulated call to Police was made (a Kingston Police Officer participated in the exercise). A Police hostage negotiator subsequently freed the hostage through negotiation. The hostage taker was taken into custody.

The Religious Hospitallers of Saint Joseph of the Hotel Dieu of Kingston

KGH KINGSTON GENERAL HOSPITAL

Providence Care

Participants:

Department / Agency	Name	Title
Emergency Management, Security & Life Safety	Brenda Conway	Manager of Emergency Planning (Incident Commander)
Emergency Management, Security & Life Safety	Falin Brygman	Security Shift Supervisor
Emergency Management, Security & Life Safety	Richard Harper	Mobile Patrol Supervisor
Emergency Management, Security & Life Safety	Julie Lalonde-Savard	Security Officer (Rounds Officer)
Emergency Management, Security & Life Safety	Chris Raposo	Security Officer (Extra Rounds Officer)
Emergency Management, Security & Life Safety	Mark Chandler	Security Officer
Emergency Management, Security & Life Safety	Matt Murdock	Security Officer (Hostage Taker)
Emergency Management, Security & Life Safety	Melanie Prevost	Administrative Assistant (Recording Secretary)
Nursing	Leanne Wakelin	Clinical Educator ECU (Hostage)
Nursing	Sherri Mallory	Charge Nurse ECU (Charge Nurse)
Kingston Police	Sgt. Chris Scott	Staff Sergeant (Hostage Negotiator)

Observers:

Department / Agency	Name	Title
Emergency Management, Security & Life Safety	Jordan Pike (Exercise Convener)	Emergency Management Coordinator
Emergency Management, Security & Life Safety	Jeff Bolton	Security Shift Supervisor
Public Affairs	Karen Smith	Manager of Public Affairs
Public Affairs	Sharon Partridge	Public Affairs Specialist
Nursing	Reg Hart	Manager ICU
Nursing	Christina Panopolous	Manager ECU
Nursing	Krista Wood	Administrative Coordinator

Objectives:

1	Test the process of the Code White & Purple procedures via a full scale exercise.
2	Identify personnel and equipment needs.
3	Complete a comprehensive post exercise debriefing.
4	Apply lessons learned during the exercise to the Code White & Purple plans.

Chronology of Events:

Date (M / D / YR)	Time (24 hr)	Event
5 / 27 / 08	1420	R/N checks on "visitor" Matt Murdock in the Kidd / Davies 4 Sunroom. Matt is upset that he constantly has to wait to see his brother in ECU. He is quick to anger and has displayed short outbursts in the past.
"	1423	Visitor becomes agitated and aggressive.

Date (M / D / YR)	Time (24 hr)	Event
5 / 27 / 08	1424	Charge Nurse Sherry Mallory is requested to call Switchboard to announce Code White
"	1424	Code White exercise announced overhead 3 times.
"	1425	Security Shift Supervisor and Rounds Officer arrive to try and defuse the situation.
"	1425	Switchboard notifies the Security Control Centre.
"	1425	Security Control Centre notifies the Mobile Patrol Supervisor.
"	1427	Visitor reveals a hidden knife and takes R/N hostage.
"	1427	Code Purple is declared by Security Shift Supervisor.
"	1427	Security Shift Supervisor requests Charge Nurse to call Switchboard
"	1427	Shift Supervisor broadcasts Code Purple over radio net.
"	1427	Security Control Centre notifies the Police. Police request Operator to stay on the line.
"	1428	Police are dispatched to Kingston General Hospital.
"	1428	Security Control Centre notifies Manger of Emergency Planning, Manager of Security and Mobile Patrol Supervisor.
"	1428	Security Shift Supervisor initiates set-up of the Incident Command Centre.
"	1432	Manager of Emergency Planning arrives to assume Incident Commander role.
"	1434	Security Shift Supervisor returns to Incident Site as Operations Officer.
"	1435	Police arrive at the Incident Command Centre to receive a briefing from the Incident Commander.
"	1439	Security Mobile Patrol Supervisor arrives and proceeds to the incident site to assist.
"	1440	Police negotiator goes to the incident site to begin negotiations.

Date (M / D / YR)	Time (24 hr)	Event
5 / 27 / 08	1443	Hostage taker drops weapon.
"	1446	Hostage taker releases hostage.
"	1447	Police take hostage taker into custody.
"	1447	Switchboard notified of all clear.
"	1447	Code White exercise all clear announced overhead.
"	1448	Exercise ends.

Participant Questions:

What Processes Went Well?
Response
Matt's acting was very well done and added a lot of realism to the exercise.
Recording Secretary found the new log sheets easier to use.
Required notifications by the Incident Command Centre went well.
Briefing by the Incident Commander to Police was thorough.
The Security Control Centre Operator and the Switchboard Operator job actions were well done. All calls and announcements were clear and concise.

What Processes Did Not Go Well?

Response

At some points there were periods of silence between the hostage taker and Security. Sgt. Scott mentioned this was normal; there are times when there is no conversation during negotiations.

When the Security Control notified Police of the hostage taking, they were requested to stay on the line. In order to maintain other responsibilities, another person may be required to help SCC during such an incident.

Being able to lock the door during such an incident is important. If there is no lock, and the door opens inward, it is possible to tie a rope to the door to close it quickly and keep the hostage taker in the room and prevent further victims.

It was felt that there were too many Security Officers in plain view of the hostage taker. It was suggested that they be present in incident area, but not be in the hostage takers line of sight. It could potentially escalate the situation.

A perimeter was not set up for crowd control. This may have been due to the physical set-up of the exercise location, which already contained some barricades.

The hostage taker was told that the Police were en route. This could have escalated the situation.

It was pointed out by Sgt. Scott that sharing your rank with the hostage taker is not advisable, even to the point of removing epilates from your uniform.

Due to the need to set up the Incident Command Centre, there were several times when there was a hand off of the negotiation from the Shift Supervisor to the Rounds Officer and vice versa. It is recommended that the initial person in contact with the hostage taker stay in contact. Even when Police arrive they will ask the person who is communicating to continue, while providing direction to that person out of the hostage taker's view.

Moving between the incident site and the Incident Command Centre was difficult for the Shift Supervisor.

It was asked what communication should go out to patients, visitors and the media during this kind of incident. Police will have a media contact that would work with the hospitals' communication department to provide that information.

Recommendations:

	Recommendation	MRP To Action (Most Responsible Participant)
1	Add job action to notify the Emergency Department of a potential trauma to the Planning Officer section.	Brenda Conway / Jordan Pike
2	In order to eliminate "handing off" of the communication with the hostage taker, the initial point of contact should be maintained. Unless there is a breakdown or the person is having difficulty.	All
3	Add job action to Incident Commander to retrieve as much information as possible (patient record or employee file information, etc.) on the hostage and hostage taker for Police.	Brenda Conway / Jordan Pike
4	Educate Security personnel on creating a perimeter for crowd control and ensuring Officers stay within the incident site, but out of view of the hostage taker.	Emergency Management, Security & Life Safety
5	Add job action to Emergency Management, Security & Life Safety section to provide an assistant (where possible) to the Control Centre Operator to stay on the line with the Police.	Brenda Conway / Jordan Pike
6	Carry out another exercise involving the Emergency Department.	Incident Management Planning Committee

Conclusions:

	Conclusion
1	The exercise tested the *process of the Code White & Purple procedures via a full scale exercise and gaps were recognized.
2	Personnel and equipments needs were identified.
3	A post exercise debriefing was held, in which feedback and comments were gathered.
4	Lessons learned during the exercise were applied to the Code White & Purple plans.

Appendix 3:
Key Resources

Appendix 3: Key Resources

SECTION 1: SENIOR LEADERSHIP

Chapter 1: Leadership's Role in Emergency Preparedness and Management

Background; Roles, Responsibilities, and Framework for Decision-Making
Ontario Health Pandemic Influenza Plan
http://www.health.gov.on.ca/english/providers/program/emu/pan_flu/pan_flu_plan.html

Canadian Standards Association
http://www.csa.ca

Guide to Good Governance
http://www.oha.com

Legislative Issues & Analysis – Backgrounders,
Analysis and Submissions
http://www.oha.com

Ministry of Health and Long-Term Care, Emergency Management Unit
http://www.health.gov.on.ca

Public Health Agency of Canada
http://www.phac - aspc.gc.ca

Seeman, N. Baker, R. and Brown, A. Emergency Planning in
Ontario's Acute Care Hospitals: A Survey of Board Chairs.
Healthcare Policy Vol 3, No. 3 (2008), 64-74

Service Ontario, e-laws (Collection of free legislation and regulations)
http://www.e-laws.gov.on.ca

SECTION 2: EMERGENCY PREPAREDNESS LEAD

Chapter 2: The Hospital Emergency Management Program

Adini, B. Goldberg, A. et. Al; Assessing Levels of Hospital Emergency Preparedness (2006)
Prehospital and Disaster Medicine. Vol 21, No. 6; 451-457 – November_december 2006;
http://pdm.medicine.wisc.edu

Disaster Planning for Health Care Facilities;
Third Edition; James Hanna

Emergency Management Doctrine for Ontario
http://www.emergencymanagementontario.ca

NFPA Standard on Emergency Services Incident
Management System (2005 Edition)

OHA Emergency preparedness in Ontario Hospitals:
a Human Resources Perspective. Report of the Human Resources
Emergency Preparedness Work Group (April 2005)

Ontario Health Plan for an Influenza Pandemic, MOHLTC
http://www.health.gov.on.ca

Risk Management Guideline for Decision-Makers:
A National Standard of Canada CAN/CSA-Q850-97

Service Ontario, e-laws (collection of free legislation and regulations)
http://www.e-laws.gov.on.ca

Sturgis, R. Strategic Planning for Emergency Managers.
Journa; of Emergency Management. Vol 5, no. 2, March/April 1 2007

Chapter 3: Establish Ownership and Commitment

Braun, B. et. Al (2006) Integrating Hospitals into Community Emergency
Preparedness Planning. Annals of Internal Medicine. Vol 144: 799-811

Emergency Programs, Services, and Support; Emergency Management Unit, MOHLTC.
http://www.health.gov.on.ca/english/providers/programs/emu/epss_mn.html

Background; Roles, Responsibilities, and Framework for Decision-Making
Ontario Health Pandemic Influenza Plan
http://www.health.gov.on.ca

Emergency Management Unit
http://www.health.gov.on.ca

Health Canada
http://www.hc-sc.gc.ca

Integrating Hospitals into Community Emergency Preparedness Planning;
braun, B. et al., Annals of Internal Medicine 2006; 144: 799-811

Legislative Issues & Analysis – Backgrounders, Analysis and Submissions
http://www.oha.com

Ministry of Health and Long-Term Care (MOHLTC) Emergency Response Plan
http://www.health.gov.on.ca

OHA Guide to Good Governance
http://www.oha.com

The Australian Journal of Emergency Management Vol 20, no 2,
May 2005 – Mirco, C. and Notaras, L

Seeman, N.; Baker, R. and Brown, A. (2008) Emergency Planning in
Ontario's Acute Care Hospitals: A Survey of Board Chairs
– Healthcare Policy vol 3, no 3

Service Ontario, e-laws (Collection of free legislation and regulations)
http://www.e-laws.gov.on.ca

Sturgis, R. Strategic Planning for Emergency Managers. Journal of
Emergency Management. Vol. 5, No. 2, March/April 2007 pages 41-48

Chapter 4: Hazard Identification, Risk Assessment and Analyzing Capabilities

Atmospheric Hazards, Environment Canada
http://www.ontario.hazards.ca

Analyze Capabilities and Hazards – FEMA
http://www.fema.gov/business/guide/section1b.shtm

Canadian Standards Association (CSA) Risk Management: Guideline
for Decision Makers CAN - CSA - Q50 - 97
http://www.oha.com

Centre for Excellence in Emergency Preparedness
http://www.ceep.ca/conference/tools/Hazard_Analysis_Tool.pdf

Centre for Emergency Preparedness and Response, Public health Agency of Canada
http://www.phac_aspc.gc.ca/cepr-cmiu/index.html

Emergency management Workbook: A Tool for Emergency Management
Practitioners (February 2006); Emergency Management Ontario

Farmer, J. Are you Prepared? Hospital Emergency Management Guidebook.
Association for the Advancement of Medical Instrumentation.

Guidelines for Provincial Emergency Management Programs in Ontario.
Emergency Management Ontario. Published 2004.
http://www.emergencymanagementontario.ca

Medical Centre Hazard and Vulnerability Analysis;
Kaiser Foundation Health Plan, Inc. 2001

Ontario Health Plan for an Influenza Pandemic - Occupational Health and
Safety Chapter Hierarchy of Controls; MOHLTC
http://www.health.gov.on.ca

State of Maine
http://www.maine.gov/tools/whatsnew/attach.php?id=23685&an=3

Sternberg E. Planning for resilience in Hospital Internal Disaster;
Prehospital Disaster Medicine 2003; 18(4):291-300

University of Western Australia
http://www.safety.uwa.edu.au/forms/risk_management_matrix

Chapter 5: Implement the Incident Management System Framework

Annelli, J.F. The National Incident Management System: a multi-agency
approach to emergency response in the United States of America;
Rev. sci. tech. off. Int. Epiz., 2006, 25 (1), 223-231

Canadian Standards Association (CSA) Canadian Emergency Management
and Business Continuity Program Standard (CSA Z1600)

Christian, M, kollek, D. and Schwartz, B;
Emergency Preparedness: what every health care worker needs to know;
Canadian Journal of Emergency Medicine (2005); 7 (5): 330-7

Emergency Management Doctrine for Ontario.
Emergency Management Ontario
http://www.emergencymanagementontario.ca

Federal Emergency Management Agency's (FEMA's)
National Incident Management System (NIMS)
http://www.fema.gov/emergency/nims/index.shtm

Hospital Emergency Incident Management System Action Sheets for Leadership Positions
http://www.emsa.ca.gov/HICS/job.asp

Hospital Incident Command System, Emergency Medical Services
Authority - Disaster Medical Service Division (2006)
http://www.emsa.ca.gov/HICS

Mutual Aid Course;
http://training.fema.gov/emiweb/is/is706.asp

Task book and checklist for key functional roles;
http://www.nimsonline.com

The Firefighting Resources of California Organized for Potential Emergencies (FIRESCOPE)
ICS Field Operations Guide (2004); and The Canadian Interagency Forest Fire Centre's
Canadian National Training Curriculum (2002)

The United States Department of Homeland Security's National Incident Management System
(NIMS) 2004 (FEMA 501), and its accompanying NIMS Basic Series (2006)

The US National Fire Protection Association (NFPA) 1561, Standard on Emergency
Services Incident Management System (2005)

The US National Fire Protection Association (NFPA) 1600, Standard on Emergency
Management and Business Continuity Programs (2007)

Zane, R. and Prestipina, A Implementing the Hospital Emergency Incident
Command System: An Integrated Delivery System's Experience;
Prehospital Disaster Medicine, Vol 19, No. 4, October-December 2004;
http://pdm.medicine.wisc.edu

Chapter 6: Adopt the OHA standardized Emergency Colour Codes

Disaster Planning for Health Care Facilities;
Third Edition; James Hanna

Hanna, J. Disaster Planning for Health Care
Facilities, Third Edition

Chapter 7: Plan Development and Implementation

Altered Standards of Care in Mass Casualty. Bioterrorism and Other Public Health Emergencies.
Agency for Healthcare Research and Quality, U.S. Department of health and Human Services
(April 2005) Publication No. 05-0043

Emergency Management Ontario - Response Resources.
http://www.emergencymanagementontario.ca/english/professionals/response/resources.html

Chapter 8: Exercises, and Evaluating and Updating the Program

Cosgrove et. Al, Group Debriefing Module in Evaluation of Hospital Disaster Drills:
A Module-Based Approach. Agency for Healthcare Research and Quality
Publication No. 04-0032; April 2004. Available online at
http://www.ahrq.gov/research/hospdrills

Centre of Excellence in Emergency Preparedness
http://www.ceep.ca/resources_genplan.htm

Federal Emergency Management Agency
http://www.fema.gov/

Forging Partnerships to Eliminate Tuberculosis: A Guide and Toolkit
http://www.cdc.gov/tb/pubs/forge/pdfs/toolkit.pdf

Jenckes, M., Catlett, C. et al (2007) Development of evaluation modules for use in
hospital disaster drills; American Journal of Disaster Medicine, Vol. 2, No.2.; 87-95
http://www.disastermedicinejournal.com

Legislative Issues & Analysis – Backgrounders, Analysis and Submissions
http://www.oha.com

Ontario Disaster Relief Program.
http://www.emergencymanagementontario.ca/english/government/ODRAP/programs.html

Service Ontario, e-laws (Collection of free legislation and regulations)
http://www.e-laws.gov.on.ca

Standing Together: An Emergency Planning guide for America's Communities
http://www.jointcommission.org/NR/rdonlyres/
FE29E7D3-22AA-4DEB-94B2-5E8D507F92D1/0/planning_guide.pdf

http://www.managementhelp.org/evaluatn/fnl_eval.htm

Appendix 4:
Evaluation Form

Appendix 4: Chapter/Toolkit Evaluation Form

Thank you for taking the time to complete the evaluation form.
Please provide feedback to us about specific chapters or the whole Toolkit.

1. Did you find the Toolkit relevant and useful?

Circle one:　　　Not relevant/useful　　　　　　Relevant/useful　　　　　　Relevant

1　　　　**2**　　　　**3**　　　　**4**　　　　**5**

Comment: _____

_____

_____

_____

2. Was the "What You Need to Know" and "What You Need to Do" format helpful?

Circle one:　　　Not at all　　　　　　Somewhat　　　　　　Very helpful

1　　　　**2**　　　　**3**　　　　**4**　　　　**5**

Comment: _____

_____

_____

_____

3. Were the tools and templates provided in the toolkit/CD valuable to you? Where applicable, please also suggest any additional resources/tools that would assist your organization with the ongoing pandemic planning.

Circle one:　　　Not at all　　　　　　Somewhat　　　　　　Very helpful

1　　　　**2**　　　　**3**　　　　**4**　　　　**5**

Comment: _____

_____

_____

_____

4. Will the content of the Toolkit assist your organization with developing the hospital pandemic plan?

Circle one: Not at all Somewhat Very helpful

| 1 | 2 | 3 | 4 | 5 |

Comment: _____

_____

_____

_____

5. Overall, was there any other information that you would find helpful regarding pandemic planning that may have been omitted from the Toolkit? Are there any improvements you would recommend?

_____

_____

_____

_____

6. Additional comments:

_____

_____

_____

_____

Thank you!

Please fax your evaluation to:

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Fax: 416-205-1337