

Disaster Management plans in Canadian Medical Schools

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Executive Summary

A disaster may cause significant disruption to medical education either by temporarily closing learning facilities such as schools or teaching hospitals, or by drastically altering the expectations placed on medical clerks. This paper is written to offer guidance in the development of proactive disaster management policies for medical schools which fully address the needs of patients and medical students.

This paper includes five principles, each with associated recommendations, which the CFMS believes should guide the development of disaster management policies for medical schools as well as regional / national organizations representing medical students, faculties of medicine, and the residency matching system. The principles and associated recommendations include the following:

1. Disaster management plans – that are agreed-upon by all relevant stakeholders at all levels – are key components to a safe clinical learning environment.
 - a. National-level plans should describe the roles and responsibilities of stakeholders in the event of a disaster disrupting the education of one or more schools.
2. Every Canadian medical school should create disaster management policies that address all hazard types, yet are informed by and address specific hazards associated with their geographical location.
 - a. Disaster management policies should follow an all-hazards approach to identify general principles and actions.
 - b. Disaster management policies should be supplemented as needed by additional information regarding local hazards identified through a focused risk assessment.
 - c. Disaster management policies should identify indicators of severity beyond which further contingency plans must be enacted.
3. A detailed communications framework is an important part of an effective disaster management strategy.
 - a. Communications frameworks should include representation and directives for both school administration and medical students on the frequency, type of content, mediums of dissemination, individuals responsible for communication, appropriate timelines, and key points of contact.
 - b. Communication frameworks should provide a timeline of recommended actionable items to facilitate timely information dissemination by identified individuals and initiation of a management plan.
4. Pre-planned curriculum transitions or student transfers should occur in cases of emergencies interrupting medical education at one or more affected Canadian medical schools.
5. Disaster management plans should specifically include descriptions and instructions for student-clerks in disasters and emergency situations.
 - a. Student-clerk descriptions should include a concrete delineation of roles and responsibilities in emergency situations.
 - b. Student-clerk descriptions should ensure the rights and safety of clerks are upheld in cases of emergencies.

Background

Disasters are either natural or human-induced events that temporarily overwhelm a community's ability to cope given existing resources (1). In the medical community, increased stress on the health care system from a disaster may manifest as a sharp increase in patient load matched by a decrease in available resources (2). As a result, hospitals across Canada develop disaster response strategies that quickly mobilize resources to ensure safety for patients and healthcare professionals alike.

In the 21st century alone, the world has been witness to several massive disasters which have mobilized the international community, such as the Haiti Earthquake in 2010 or Typhoon Haiyan in late 2013. At the time of writing, an epidemic of Ebola Virus centered in West Africa has led to international concern and action. While infrequent in nature, the threat of disasters continues to be relevant in the 21st century due to the potential for devastating effects on health, social structure, and the physical environment.

While many may not associate disasters with North America, recent events suggest this thinking must change. For example, a Severe Acute Respiratory Syndrome (SARS) pandemic which began in Southern China in 2003 and spread to 29 countries went on to cause significant disruptions to health care delivery in Toronto and other North American cities (3,4). In 2005, Hurricane Katrina caused widespread damage and a mass exodus as it made landfall in Louisiana (5-9). In both examples, medical education was severely disrupted and unusual accommodations were made (4-9). It is clear that a prudent step for all healthcare organizations, including medical schools, is the creation of a comprehensive disaster management policy.

A disaster may cause significant disruption to medical education either by temporarily closing learning facilities (schools or teaching hospitals) or by drastically altering the expectations placed on medical clerks. This paper is written to offer guidance in the development of proactive disaster management policies for medical schools which fully address the needs of patients and medical students.

What follows is a set of five principles, each with associated recommendations, which the CFMS believes should guide the development of disaster management policies for medical schools as well as regional / national organizations representing medical students, faculties of medicine, and the residency matching system. Ultimately, the concerns of the CFMS are that under-developed disaster management policies may result in compromised patient safety, student safety, and disrupted medical education.

Principles

- 1. Disaster management plans – that are agreed-upon by all relevant stakeholders at all levels – are key components to a safe clinical learning environment.**
- 2. Every Canadian medical school should create disaster management policies that address all hazard types, yet are informed by and address specific hazards associated with their geographical location.**
- 3. A detailed communications framework is an important part of an effective disaster management strategy.**

4. **Pre-planned curriculum transitions or student transfers should occur in cases of emergencies interrupting medical education at one or more affected Canadian medical schools.**
5. **Disaster management plans should specifically include descriptions and instructions for student-clerks in disasters and emergency situations.**

Concerns

Patient safety: It is critical that patient safety is not compromised during disaster response. Given that medical students are frequently considered as potential health human resources during times of emergency, appropriate training and policies on the roles, responsibilities, and rights of medical students must be developed to ensure patients continue to receive safe care.

Student safety: Disaster management is a critical component of a medical school's safety and security system. Without comprehensive disaster management policies, a medical school cannot ensure a safe learning environment.

Disrupted education: Disasters may impact the ability of medical students to complete mandatory educational requirements. In the event of disaster-interrupted education, time sensitive activities (e.g. CaRMS applications) should be re-adjusted such that medical students are not negatively affected by unforeseen circumstances.

Recommendations

1. **National level plans should describe the roles and responsibilities of stakeholders in the event of a disaster disrupting the education of one or more schools.**

Large scale emergencies may lead to significant disruption and unusual accommodations in the education of one or more medical schools. For example, during the majority of the 2003 SARS crisis, University of Toronto students were unable to access Toronto hospitals (4). Although this disrupted electives for many students, the Canadian Resident Matching Service (CaRMS) delayed its process by one month to allow students to complete their requirements (10). Internationally, this was witnessed during Hurricane Katrina in 2005, when all major educational facilities were damaged and medical students from Tulane University and Louisiana State University were a part of the mass evacuation of New Orleans (5-9). Their medical education was interrupted for a month before alternate teaching sites were identified (5-9).

To minimize disruption to medical education, a national level disaster response plan involving the AFMC, CFMS, CaRMS, and other stakeholders as necessary, should address specific roles and responsibilities. This plan may include channels of communication, relevant timelines, composition and representation in committees, and critically, contingency plans in the event of severely disrupted medical education. Further guidance may be offered in the event of disasters directly affecting time sensitive events such as the CaRMS matching process.

2.1 Disaster management policies should follow an all-hazards approach to identify general principles and actions.

Disasters may be classified to varying degrees of specificity according to cause, hazard type, or speed of onset (1). However, regardless of the type of disaster, management includes four common elements; prevention and mitigation, preparedness, response, and recovery (1,11). An all-hazards approach, which is recommended by all major public health organizations (11-15), identifies specific steps and responsibilities in each of these areas which remain constant in the event of any disaster. For example, as the disaster response element includes actions taken immediately before or during the disaster, medical schools may identify specific actions within this component such as emergency communications, evacuations, or addressing emergency medical needs (11) which would occur regardless of disaster type. Additionally, in health care organizations, the identification of guiding principles (such as patient safety) has also been identified as a success factor (16) and enables the prioritization of actions.

2.2 Disaster management policies should be supplemented as needed by additional information regarding local hazards identified through a focused risk assessment.

To ensure the relevancy of disaster management policies, specific information regarding local hazards should supplement the general all-hazards approach (11). These hazards should be identified and prioritized through a systematic risk assessment which identifies risks, determines their probability, and analyzes their possible impacts (15). For example, disaster preparedness training and drills might address specific hazards, such as earthquakes or flooding, which are more common in a school's geographical area.

2.3. Disaster management policies should identify indicators of severity beyond which further contingency plans must be enacted.

Not all disasters have the same impact. To ensure an adequate and proportional response, it is important for medical school disaster management policies to identify objective indicators both to initiate response actions and to pursue further actions. In this way, disaster response plans identify steps that are only necessary once a given level of disruption has been reached. For example, alternative teaching sites or methods would only be identified after a predetermined number of days of school shutdown.

3.1. Communications frameworks should include representation and directives for both school administration and medical students on the frequency, type of content, mediums of dissemination, individuals responsible for communication, appropriate timelines, and key points of contact.

To ensure all medical school students and faculty are aware and prepared for a disaster in a timely manner, it is important for medical school disaster management policies to clearly identify individuals who will be responsible for sharing information with students and faculty members. Key points of contact and individuals responsible for knowledge dissemination should include both student and faculty member representation, and should be identifiable to other students and faculty to effectively respond to queries and concerns. Protocols for minimal standards of how often information is to be relayed to faculty and students and minimal mediums for the sharing of this information should be determined by each medical school based on a combination of formal (e.g. via the Registrar's Office

and staff directory) and informal (e.g. student listservs, student forums, social media platforms) lines of communication available to the school community.

3.2. Communication frameworks should provide a timeline of recommended actionable items to facilitate timely information dissemination by identified individuals and initiation of a management plan.

During a disaster or emergency, a structured timeline is optimal to alert students and faculty members with adequate notice. Medical school disaster management policies should clearly delineate when initial correspondence is to be initiated and who is to receive this information. Disaster management policies should also identify a structured schedule for provision of updates on disaster situations to ensure students and faculty are aware of the status of the situation and are enabled to be adequately prepared to respond in line with a management plan.

4. Pre-planned curriculum transitions or student transfers should occur in cases of emergencies interrupting medical education at one or more affected Canadian medical schools.

During a public health emergency, medical student education may be compromised due to limited teaching staff and space. For the pre-clerkship curriculum, plans should be put in place to transition curriculum to an online format through lecture recordings and modules. Practical labs and anatomy dissection may not be possible in an emergency and efforts should focus on creating alternative laboratory sessions or online tutorials. With regards to clerkship, students may be reassigned to rotations at hospital sites unaffected by the emergency, and in severe cases, relocated to other medical school sites for placements. Contingency plans for curriculum transition should be outlined clearly in medical school emergency response plans.

5.1. Student-clerk descriptions should include a concrete delineation of roles and responsibilities in emergency situations.

In emergency situations, physicians and residents may abandon their teaching duties for more pressing priorities. As a result, clerks may not be supervised and should not be expected to provide clinical care, especially in areas where they are not skilled. Before an event takes place, all faculties should provide clerks with basic training in emergency and disaster preparedness as part of their medical school training and clearly communicate voluntary clerk duties. Duties must be in line with clerk's level of training. Participation in such activities must be completely voluntary and must have no bearing on clerk's future evaluations or opportunities.

5.2. Student-clerk descriptions should ensure the rights and safety of clerks are upheld in cases of emergencies.

Emergency situations may necessitate that medical students take on additional duties and work extra hours voluntarily depending on the emergent needs of the community. This can place an added stress on the physical well-being and mental health of clerks. The highest standards must be practiced to ensure that the rights and safety of clerks are upheld at all times. Clerks must be granted rights that include but are not limited to access to Occupational Health Offices, rapid vaccination, personal protective equipment, insurance for sickness and long-term disability, life insurance, counseling and a

safe work environment. In the event that a clerk is infected with a pandemic illness, alternative living arrangements must be provided to ensure the safety of those in their living environment.

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