

Integrating an incident command system and business continuity into a healthcare response to a flu pandemic and other infectious disease emergencies

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ABSTRACT

A coordinated health system response to a pandemic influenza will require a command and control process embedded in the health system. This paper will show how systemising command and control by using an incident command system in an emergency operations centre, along with business continuity through integration of public health operations with

acute care operations, will create a manageable response and a proven framework to achieve a coordinated response to competing complex issues.

Keywords: *pandemic influenza, bird flu, avian flu, H5N1, business continuity, command and control, incident command system, emergency response, emergency preparedness, healthcare*

INTRODUCTION

Emergency preparedness, not disaster management, is the fundamental key to a proactive 'all hazard' programme. In every emergency, there is an initial period of confusion and disbelief, during which people may be overwhelmed and unable to deal with their situation adequately. During the initial stage, critical actions to respond effectively to the emergency will be initiated. Coordinated decision making from the onset will help mitigate the effects of the incident over the long term. Emergency management is about people — those who are affected by the emergency as well as those helping to mitigate, prepare for, respond to and recover from an event.

Virtually all healthcare operations, in-

cluding public health, carry out their responsibilities only at a local or regional level. Large-scale infectious disease emergencies, such as severe acute respiratory syndrome (SARS) or pandemic influenza, will be recognised and managed at a local level;¹ however, the challenge for the broader healthcare sector is to move from a mindset that treats emergencies as external events demanding a clinical response, to being able to respond to emergencies affecting the entire sector. Early decisions could move what may appear as a simple response along the continuum into a complex emergency having long-term effects for the healthcare organisation.²

Healthcare must be positioned, resourced and sufficiently linked to support a broader response to emergencies that threaten the health of the public on a large scale. This includes emergencies such as large transportation incidents, chemical contamination or bio-terrorism, pandemic response and recovery. Take a good look at your organisation, are you prepared?

Pandemic planning from a regional health perspective is more about what we will *not* be able to do, than what we can do with an integrated health system. Health systems respond every day to the needs of the community, and sometimes systems become overwhelmed for a short period. This is often referred to as a disaster, but, upon analysis, it is better described as a large emergency. Pandemic influenza will affect the infrastructure over a long period and become a business continuity nightmare as the percentage of staff shortage rises, the demand for service rises, and the need to establish community triage centres or alternative care sites requiring staff and supplies is determined. Vaccination clinics will also need to be established. This could compromise provided core services and lead to a healthcare system disaster due to staffing level reduction.

However, focusing individually on

smallpox, SARS, or pandemic influenza raises the risk of over-investing limited resources in managing a restricted range of public health emergencies rather than engineering a system that can be flexible and responsive as well as sustainable³ with an 'all hazard' approach like communicable disease outbreak. Building the plan is just the beginning; there are requirements to look at the system in an entirety such as:

- clearing up confusion over processes, roles and responsibilities between the levels of stakeholders;
- learning a clear definition and delineation of the leadership structure;
- understanding the organisational capacity; what are we not going to do and when are we not going to do it;
- systemising public health, acute care, community programmes and long-term care into one response model;
- training and exercising the plan.

STAKEHOLDERS

The Canadian Federal Government has put forward a 400-page pandemic plan to provide the framework for Provinces and, ultimately, the local health jurisdiction to develop a pandemic plan. The F/P/T Network (Federal/Provincial/Territorial) developed 31 recommendations on emergency preparedness in Canada, which are referred to in the Naylor Report, listing surge capacity as one of the key areas to be addressed.⁴ From analysing these and other documents, there is little to no direction on how it needs to be developed. In a pandemic scenario, the emergency planner needs to understand, in all likelihood, that there will be no surge capacity from outside the local jurisdiction; it will need to be created from within. When dealing with non-governmental organisations (NGOs) as a

source for staff, the NGO emergency planner requires an understanding that they may also be equally affected by the disease. In other words, what is the business continuity plan for NGOs and how does the organisation plan to continue operating if its leaders are unable to carry out designated responsibilities? How does the group plan to feed street people, for example, when its staffing resources are down 33 per cent? When these questions are answered, planners may discover the volunteer availability pool may be further reduced as people are needed in other roles. In addition, when dealing with volunteers, some people belong to more than one organisation, thus reducing the pool even more. All stakeholders will need to do an internal assessment of their staff situation before they can step forward to help build the surge capacity pool.

LEADERSHIP

Leadership has many definitions, but is an art, an art of mobilising others to struggle for a shared aspiration through a common vision.⁵ As a leader, the incident commander needs to retrieve the skills, knowledge and traits from the toolbox and use the right tools at the right time, for the right reason, by creating an impression of competence, by articulating ideologies and vision, by communicating strong convictions and confidence in others.⁶ The ultimate goal is to motivate a commitment to the organisation's objectives and strategies. Doing this during times of crisis without a command and control system will produce less than desired results. Even the best leader without a documented system for command and control could fail. Healthcare is not used to this type of paradigm.

Healthcare is modelled after consensus, consultative process and experienced

decision making made over time, after all factors have been given equal consideration. Emergency management is about assessing the situation and developing an operational plan, which the incident commander/emergency operations director implements under less than ideal conditions. This has been a small barrier when emergency management planning and healthcare come together. The time for resolving issues is in the planning phase, not the implementation phase. How the organisation's temporary emergency management structure will be implemented and executed will determine how well the organisation will survive at the other end of the crisis.

Using a recognised structure has a number of benefits: it provides for common terminology, for unity through the chain of command and for a modular and flexible organisation in order to deal with surge capacity. It also allows outside agencies to provide assistance to the management structure, manages administrative and financial aspects of the response, addresses ongoing staffing needs or requirements and can collect and organise real-time information on the status of the event.

One model an organisation may consider is the incident command system (ICS),⁷ as depicted in Figure 1. As part of the structure, an executive policy group requires establishment to oversee the strategic decisions and ethical decisions that will be required during the operational period. A common structural error made by organisations is to place the senior executives into the minute-by-minute command and control structure and, therefore, not have the force to make the strategic, ethical and legal decisions required in downsizing healthcare services. The ideal candidates for the command are the director and manager of the organisation.

This emergency management model

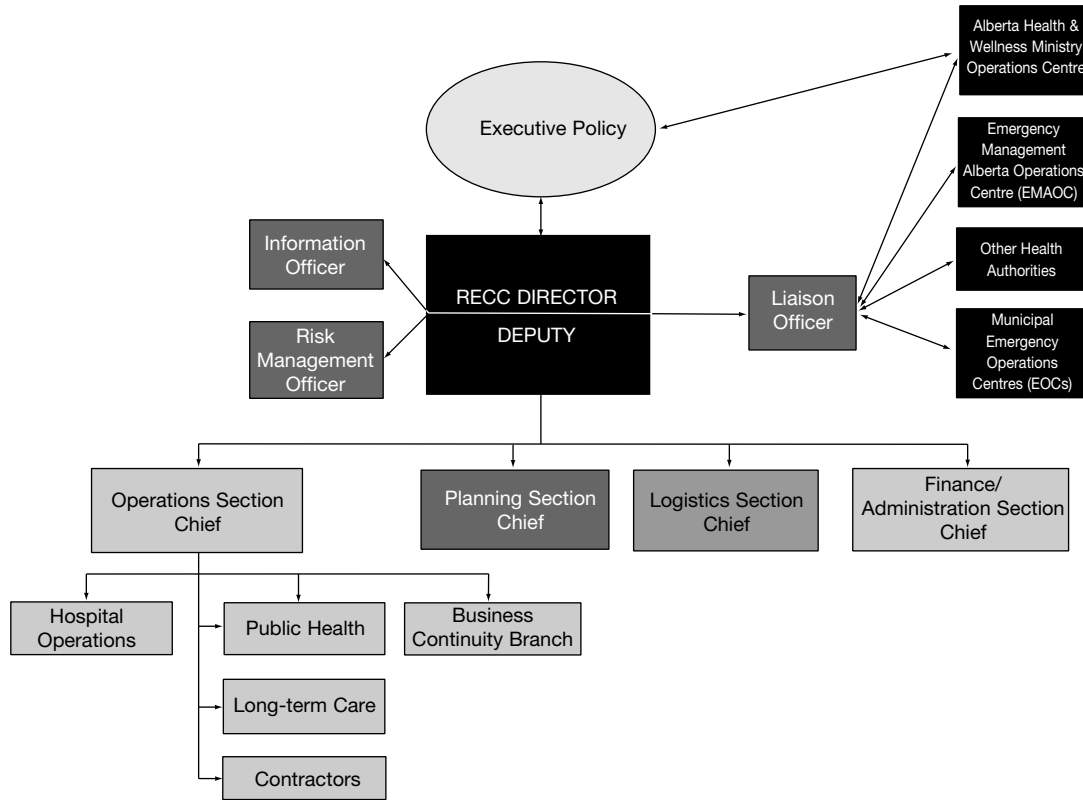


Figure 1
Emergency Management Structure using Incident Command System (ICS)

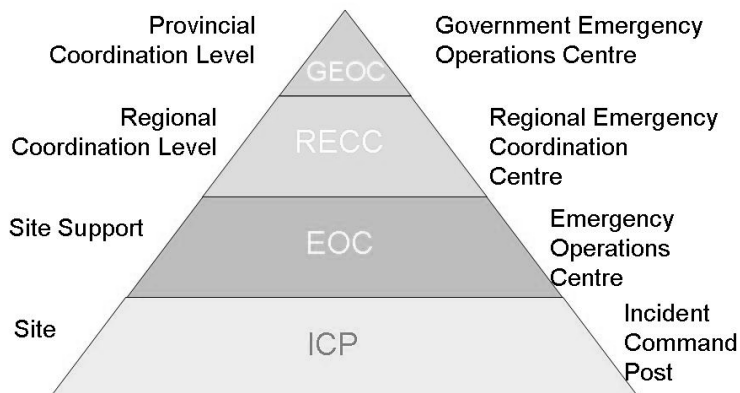
provides for a comprehensive, integrated and flexible approach to planning and managing emergencies in the health field. It can be applied to all types of emergencies; however, coordination of emergency preparedness and response measures across jurisdictions is predicated upon standardisation of emergency procedures with the interoperability of emergency operation centres that can link to other partner emergency operation centres at the time of a large infectious disease outbreak. This is accomplished through the liaison officer.

To ensure understanding of varying contingency management capacities, in order to know when to shift to emergency mode and when to call for assistance, the structure is based on the ability for expansion and contraction

given the requirements of the operational period. As the magnitude of the incident increases, so does the requirement for managerial support to the incident. Most emergencies can be handled at the site level using an incident commander. When site coordination is required, the establishment of an emergency operations centre (EOC) will help coordinate activities. However, in an integrated healthcare system, regional coordination will be required if more than one site EOC is activated. When more than one health authority becomes involved, as in a pandemic influenza emergency, governments will need to activate a similar structure for a broader provincial or federal coordination.

The emergency management model in Figure 2, along with ICS ensure the

Figure 2: Levels of Command



development of a strong centralised coordination capacity to facilitate a collaborative response between regional levels and jurisdictions by providing the leader with the right tools and roadmap to carry out the emergency command and control successfully.

ORGANISATIONAL CAPACITY

In the event of a communicable disease outbreak (pandemic), the demand for health services will exceed the availability of resources. The organisational direction should be one of a system-wide approach to emergency management, ensuring all necessary activities, required by legislation, are incorporated into the plan. A communicable disease outbreak plan operates in conjunction with a number of functional business continuity plans, encompassing the various responsibilities for mission critical, essential business functions, priority public services and priority business functions. Under normal circumstances, a public health division will continue, as mandated, to follow-up all notifiable disease reports. In the event of unusual circumstances or increased provincial, national or global activity of

a known communicable disease, the emergency management process should be activated. The infectious disease outbreak organisation chart shown in Figure 3 is an expansion of the emergency management structure described above. Along with operations, the business continuity branch becomes an integral section in managing the ramping up and down of services.

To react effectively to an impending appearance of pandemic influenza in the health region, the best response to a situation is to be as proactive as possible. With this in mind, the concept of maximum tolerable downtime (MTD⁸) should be introduced to the health services component of the planning process.

Maximum tolerable downtime is defined as the maximum length of time that a health service can be safely suspended from active operation. For the purposes of the health region pandemic planning, this length of time follows a continuum and is described in Table 1 as a graduated scale.

The health services committee members should identify each service offered by their department, unit or site and apply an MTD number to that service.

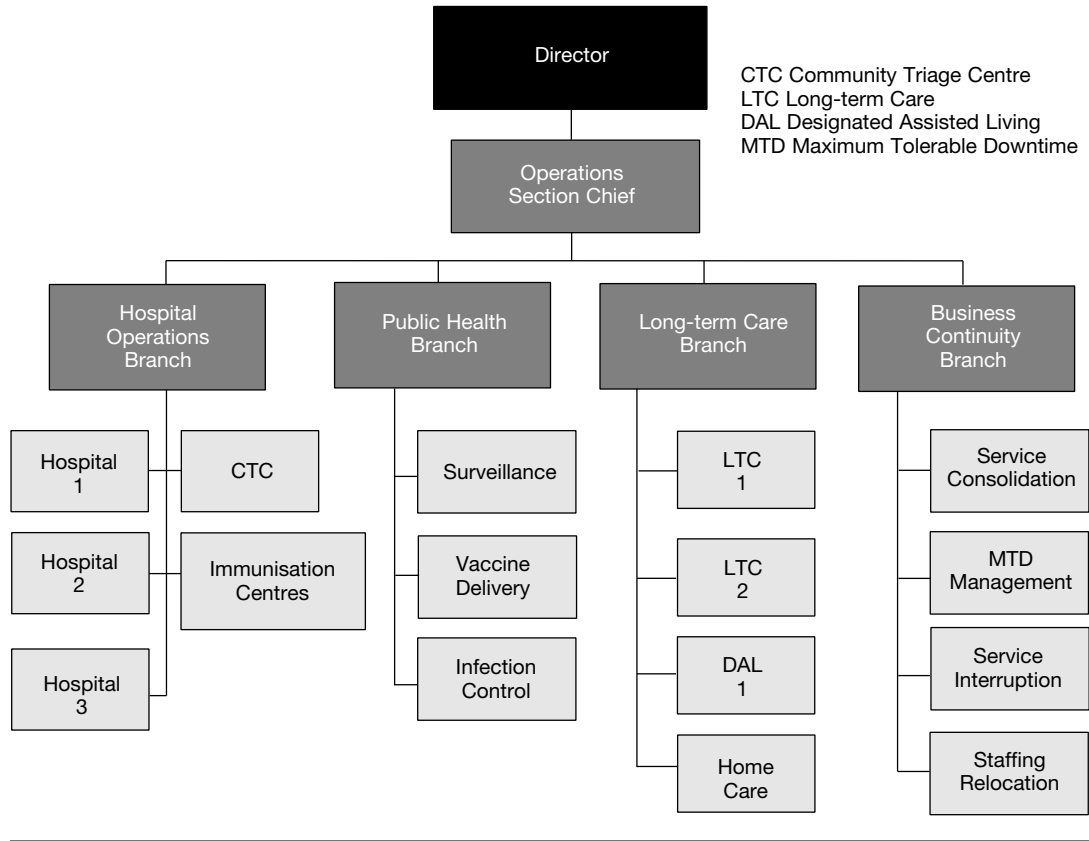


Figure 3:
Infectious Disease
Outbreak
Operations Section
Structure

This number, equated to staff roles in each department, unit or site and from a business continuity perspective, presents a fairly accurate picture of which services can be ramped down or up and how staff from each service can be best utilised to maintain the most available care for all patients. The available number of staff should not be counted, as this will be impossible to estimate during a pandemic. The type of staff available from each service area, however, should be identified and catalogued. The regional emergency coordination centre (RECC) will use this snapshot of the region to guide service changes and staff reallocation.

The health services committee should recognise the second stage of the process: in order to deliver best care for the region, it would need to be efficient in consolidating various health services of-

fered by the health region, but it would require a framework or goal to meet this objective successfully.

In most cases, the goal for consolidation of health services is to improve access and quality of health services for beneficiaries of these services. It has been theorised that, over the long term, the consolidation of services will also save administrative costs, supplies and equipment costs, and costs associated with staff availability, retention and training.

During a pandemic influenza, the main goal of service consolidation is to simplify the decision-making process required to maintain overall critical services. While this does require the suspension of some services at various sites, these changes need to be made quickly while remaining cognisant of all the political manifestations the consolidation may present.

Table 1: Capital Health pandemic planning maximum tolerable downtime scale

<i>Level</i>	<i>Level definition</i>
0	Increase full service levels to higher than normal
1	Full service levels to be maintained with no disruptions
2	Full service disruption to a maximum of 24 hours
3	Reduced service for 24 hours to two weeks, then reassess (reduced service definition and period of time service can be maintained, eg seven days, to be defined by each service area)
4	Reduced service can be maintained for the duration of 2–6 weeks, then reassess
5	Complete service can be suspended for duration of the event up to six weeks, then reassess

To make this process operational, the plan from a high level will be to ‘ramp up’ services identified as MTD 0, by redistributing staff from services to be ‘ramped down’, identified as MTD 5. The next step will be consolidating services within the region, then to ramp down services identified as MTD 4, then MTD 3 as required. The most difficult issue in the process will be for team members to understand that in a pandemic where the infrastructure may be equally affected, the health sector will not be able to maintain pre-pandemic service levels. As the requirement for staffing continues to escalate to maintain core services, a clear plan and trigger points to activate some aspect of the plan need to be clearly delineated.

SYSTEMISING THE RESPONSE MODEL

The challenge for the health region will be to determine how the organisation would integrate World Health Organization (WHO) phases, emergency management levels of activation and stages of operations. Clearly, the response to a pandemic is multidiscipline. The lead should be public health, but at the same time, acute care may be required to supplement staffing requirements of public

health based on the planning assumptions and the final published operational pandemic plan.

Levels of activation

There are five different levels of emergency conditions warranting different levels of activation by an organisation, be it supportive response to a sector, or recovery of the health infrastructure. As the RECC’s role is one of support and coordination, with the exception of business recovery from a direct impact (eg major fire, pandemic) affecting the infrastructure, the RECC will usually operate at the lower levels or phases of operations than the acute institutions.

Level 0: Warning/alert

Level 0 will exist when the level of activities or problem severity is identified as:

- having the potential to compromise the normal activities of a health authority;
- a disease strain that has emerged in other areas of the world requiring preparing for response, coordination of vaccine delivery, and the need to develop contingency plans specific to the disease.

The chief executive officer will normally assign an RECC director.

Level 1: Preparedness

Level 1 will exist when there is:

- a significant increase in activities or severity of problems being identified; and
- sufficient information that a threat is perceived.

The RECC director will assemble a contingency management group. The group will strategise and analyse the significance of the escalation of activities and develop a number of planning objectives to meet the expected response requirements. This contingency management group will meet regularly, and the RECC director will brief the executive policy group.

Level 2: Activation

Level 2 will exist when:

- an activity or event is of an unusual or major emergency requiring action and coordination beyond normal procedures and affects the delivery of healthcare services in multiple sites; or
- when it becomes clear the health region can no longer continue normal operations due to the disruption or event.

The RECC director will determine the partial activation (business hours) of the RECC in whole or part after considering the magnitude of the incident and the impact on healthcare delivery. In the event of no warning, the RECC will be activated by:

- any senior executive member; or
- at the request of the ministry or local jurisdiction; or
- any senior member of a mission critical/priority business programme.

Level 3: Response/business recovery

Level 3 will be declared when:

- any incident or hazard has or will disrupt or damage the functions, infrastructure or systems of an organisation;
- essential services, programmes and operations are resumed within a specific timeframe to enable the organisation to fulfil its mission and mandate.

The regional emergency coordination centre operation will be in a 24/7 mode.

In the event of a major disaster or a breakdown in communications or other infrastructure, it is expected that liaison with the senior government structure will be essential for coordination as a participant in other regional or provincial emergency response.

Level 4: Demobilisation

Level 4 will be entered into when it becomes clear that:

- the organisation no longer requires the special decision-making, planning and operational functions required for emergency management; and
- the health authority level of functional restoration is sufficient to assure a safe, controlled, efficient and cost-effective demobilisation process.

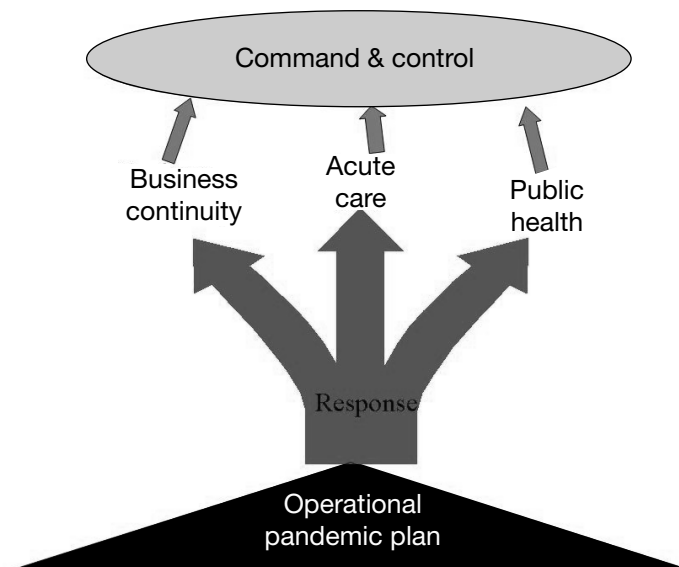
Level 5: Review

Level 5 will be:

- the period after demobilisation when the organisation has returned to a normal activity level and is in a state of catch-up.

The office of emergency preparedness will completely review every aspect of the incident and processes used and will make recommendations to update plans

Figure 4:
Simultaneous
three-fold approach



and procedures, and address deficiencies through a quality improvement process.

The management levels of activation along with the stages of operation become the roadmap for the director in establishing the command and control structure. As staffing depletes for a number of reasons, the business continuity aspect pushes to the forefront. The coordination of scarce resources becomes critical for the command and control system.

As an organisation becomes aware of an impending incident or a communicable disease emergency, it must also prevent segments of staff working in isolation. For instance, public health needs to interface with community physicians, acute care emergency physicians, and other care facilities such as long-term care to provide the surveillance for early recognition of disease emergence in the community. At the same time, it is important to establish and adequately staff the command and control structure to ensure the timely coordination of information and the ability to expand the temporary emergency management organisation. People

and equipment need to be in place before the outbreak takes hold.

As depicted in Figure 4, the operational plan determines the response from a simultaneous three-fold approach with the command and control structure binding the process.

After the emergency management structure is activated, be it limited to business hours or full 24-hour, seven days a week, a number of steps need to be carried out during each stage of operation, for example:

- Stage 0: No human cases identified in Canada/region:
 - confirm case definitions;
 - conduct active surveillance;
 - monitor world activities;
 - resolve issues related to delivery of health services;
 - consider activation of a consequence management team;
 - implement respiratory etiquette programme.

In the regional plan, Capital Health

has 62 items to be checked off in preparation for the next stage.

- Stage 1 — Suspect cases identified/presented:
 - implement public health measures and education;
 - work with lab on diagnostic procedures;
 - increase surveillance;
 - intensify infection control measures.

In the regional plan, Capital Health has 18 additional steps to be checked off and requiring action.

- Stage 2 — Multiple suspect/confirmed cases:
 - increase public health measures;
 - consider restricting access to hospitals;
 - establish community triage centres.

This section has 55 additional steps to be checked off.

- Stage 3 — End of first-wave actions:
 - maintain response team;
 - update key messages;
 - revise clinical care guidelines;
 - re-establish MTD services;
 - prepare to return to stage 2.

This section has 16 additional steps identified in the plan.

- Stage 4 — Demobilisation:
 - partially demobilise and prepare for subsequent wave;
 - review procedures and enter into catchup programme;
 - evaluate and analyse data.

This section has 17 additional steps for completion.

- Stage 5 — Review and update plan.

This section outlines which areas of the organisation are assigned the task of developing recommendations for changes from lessons learned:

- complete review of all aspects of the process and make recommendations to update procedures.

There are 12 steps required to complete the process before the emergency management structure is dissolved and reactivated for another event.

By developing a checklist framework, the emergency manager (the RECC Director), will be able to follow a list of requirements identified in the plan and not be required to develop a list under extreme pressure. The Capital Health Stages of Pandemic Operation checklist is detailed in the appendix.

TRAINING AND EXERCISING THE PLAN

Planning will not end with the written document; the document needs to be communicated in the form of ongoing training and then exercised regularly to validate assumptions. To exercise comfortably, staff will require training in the ICS model, which forms the basic structure of the Government of Canada emergency response framework, called the National Emergency Response System. (The US equivalent is the National Incident Management System.) In addition, staff will require training in EOC and exercise design.

This is a long and expensive process, but valuable when one considers the risk and due diligence requirements placed on health systems, be they accreditation requirements, legislative requirements or NFPA 1600/CSA — Z731-03 requirements. The trend is shifting from the

mindset that sees emergencies as external events demanding a clinical response, to being a sector that can respond to emergencies that affect the entire health sector. It is critical to maintain public confidence and corporate standards during this time.

There are five types of exercises and each is beneficial during the process. Of the five, orientation seminars, drills, tabletop, functional and full-scale, the tabletop will be the most economical and value for time. No plan is complete unless it is learned and tested regularly. The benefits of exercising an emergency plan include:

- revealing planning weakness;
- revealing resource gaps;
- improving coordination;
- clarifying roles and responsibilities;
- improving individual performance;
- developing enthusiasm, knowledge and skill;
- testing equipment;
- testing operational guidelines;
- gaining public recognition of emergency management programmes.

An effective emergency management programme provides training on the fundamentals of emergency management for all hazards that may affect people, property and the environment.

SUMMARY

The minimum criteria for effective emergency preparedness and response should be rooted in national and accreditation standards for emergency preparedness. In addition, an effective emergency management model ensures the development of a strong centralised coordination capability to facilitate collaborative responses between jurisdictions that model common terminology, unity

and chain of command. At the same time, it enables an organisation to be modular and flexible to deal with surge capacity requirements.

Health emergency management involves the plans, structures and arrangements needed to bring together the normal endeavours of government, voluntary and private agencies and healthcare in a comprehensive and coordinated way to administer the whole spectrum of emergency needs, using the tools of command and control, mitigation, preparation, response and recovery, business continuity and finally education and awareness.

In the end, the plan should:

- Establish a system that integrates the community and health authority response to emergencies and infectious disease emergencies.
- Be comprehensive, with careful analysis of the output from the planning process.
- Contain business continuity as the cornerstone for a system-wide response.
- Balance competing interests based on sound, public justifications.
- Clearly identify ethical issues around decision making.
- Conscientiously build in checks and balances to organisational or governmental power.
- Actively include diverse perspectives to avoid unintentional biases and ‘group-think’ stereotypes.
- Temper the urge to maximise outcomes with fairness, trustworthiness and compassion.
- Identify and resolve cross-sector conflicts/overlap.
- Build infrastructure (EOC/RECC).
- Include training and exercises.

Dwight D. Eisenhower once said that ‘In preparing for battle I have always found

that plans are useless, but planning is indispensable'.⁹

Take a good look at your organisation, are you prepared?

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APPENDIX: THE CAPITAL HEALTH STAGES OF PANDEMIC OPERATION CHECKLIST

Stage 0 (no human cases identified) actions

- Confirm case definitions
- Increase active surveillance
- Continue to monitor world activities
- Confirm key messages for stakeholders
- Contact partners and key stakeholders
- Determine issues related to delivery of health services
- Consider activation of consequence management team
- Implement respiratory etiquette team
- Confirm definitions and review guidelines for three levels of care (self-care, outpatient care and inpatient, hospitalised care)
- Begin planning to review MTDs
- Produce self-care training package for increased reliance on family/informal support networks for client care
- Maintain municipal, provincial and national (including the Department of National Defense) contacts for pandemic planning
- Determine Capital Health-based supplies stockpile plan needs
- Begin conversations with supplies and equipment vendors, and implement contracts
- Begin stockpiling supplies
- Test and repair stockpiled equipment
- Access ventilators from all available places, eg Northern Alberta Institute of Technology
- Work with Child Welfare to plan for the management of orphaned children
- Work with Alberta Human Resources and Employment to plan for a possible

increase in the number of Albertans requiring social assistance, due to business closures

- Confirm the comprehensive staffing requirements that include all Capital Health disciplines as well as volunteers from the public
- Confirm with the Province to identify priority groups for the receiving of a pandemic influenza vaccine that will be developed when the influenza organism is isolated and identified
- Begin work with the Federal/Provincial/Territorial governments to confirm the plan to control the allocation and distribution of the vaccine and anti-influenza medications (antivirals) during the pandemic
- Confirm triage centre procedures
- Confirm triage guidelines
- Confirm triage centre supplies inventory
- Identify triage centre implementation staffing requirements
- Identify an alternative care site
- Confirm care of the dead guidelines
- Work with Capital Health funeral directors to include them in a plan for care of the dead
- Work with the appropriate social service agencies (eg Salvation Army, Mennonites) to develop social services and counselling plans
- Confirm the procedures for providing support to those who will be confined to their homes during a pandemic
- Update and maintain pandemic communications with other Alberta Health Regions
- Update and maintain pandemic communications with First Nations during a pandemic
- Define which Capital Health services will 'ramp up' if and when a pandemic occurs
- Organise MTDs by priority levels
- Define which Capital Health services will 'ramp down' if and when a pandemic occurs
- Information technology needs input to ramp down their services
- Confirm the regional transportation procedures for pandemic
- Confirm the regional emergency coordination centre (RECC) plan
- Confirm the 'ramp up' and 'ramp down' task list for use in the RECC
- Confirm the pandemic staffing plan, including the use of non-traditional staff
- Confirm protocols to assist in the appropriate management of patients with pneumonia and for expediting extubation of patients on ventilators
- Confirm and maintain communications for long-term care facilities to assist them with enhancing care within their sites as much as possible rather than them sending ill residents to hospitals
- Confirm stockpiling operations for antivirals and other drugs that will be required if they are to be available in the quantities needed during a pandemic
- Confirm drug dispensing operations for a pandemic
- Confirm terms of reference for the interdisciplinary ethics committee
- Update and maintain communications with all bargaining units, professional associations and other healthcare workers to assist them in working cooperatively during the pandemic
- Confirm critical stress debriefing for during and after the pandemic for all members of Capital Health staff
- Confirm operations for staff training
- Confirm non-traditional staff training
- Work with Alberta Health and Wellness (Ministry of Health) to set up a pandemic response centre for use during the pandemic to coordinate the health response (similar to that previously established for job action)

- Assist the provincial and federal governments with funding and compensation issues as they relate to Capital Health during a pandemic
- Confirm the operational steps to set up and staff a regional vaccination centre
- Confirm security services pandemic operations
- Confirm IS infrastructure pandemic operational status
- Work with Capital Health physician leaders to develop a physician's pandemic plan
- Confirm regional consolidation of services operational status
- Test the triage centre plan as a tabletop exercise during an upcoming flu season
- Contact the Department of National Defence (DND) with regard to the use of field hospitals as a resource for a pandemic
- Contact the national emergency supply system (NESS) for assessment of use during a pandemic
- Define a service plan for each hospital site
- Convene ethics committee.

Stage 0.1 (suspect case identified in North America) actions

- Material management will contact supply vendors, confirm prearranged contract commitments and order required supplies.

Stage 1 (suspect case identified/presented to hospital in Capital Health) actions

- Implement public health measures and education
- Heighten Occupation, Health, Safety & Wellness (OHS&W) programmes
- Work with lab on diagnostic procedures

- Increase surveillance
- Intensify infection control measures
- Implement the RECC
- Prioritise healthcare services based on staffing availability
- Implement the health link meningitis 'ramp up' plan
- Communicate with the public regarding where to go for advice regarding the signs and symptoms of pandemic influenza (eg Health Link)
- Communicate with Capital Health staff regarding pandemic situation and what to expect
- Establish the business continuity branch under the operations section chief
- Document staff skill set and coordinate proactive work assignments in preparation for a pandemic
- Begin staff training
- Confirm and communicate human resource policies to staff (eg cancellation of leave, vacations, etc)
- Begin self-care training to increase public reliance on family/informal support networks for client care
- Establish a hot-link phone network to Capital Health in all Capital Health community pharmacies
- Begin non-traditional staff training
- Prepare to implement first triage centre.

Stage 2 (multiple suspect cases within Capital Health) actions

- RECC director announces level and stage of operations
- Implement quarantine and other/additional public health strategies
- Investigate suspect case
- Follow-up of home quarantine
- Consider restricting access to hospitals
- Increase communication to the public
- Consider assessment triage centres and medical student surge capacity
- Begin implementation of regional consolidation of services plan

- Modify, if required, the general 'clinical case definition' for an influenza-like-illness (ILI)
- Implement the Capital Health roaming influenza assessment team(s)
- Implement the regional security plan
- Add security services to warehouses and food supplies
- Implement a central call centre for staff
- Begin monitoring of staff reporting of illness
- Begin monitoring of staffing levels
- Relocate pertinent staff as necessary
- Close all regional staff education programmes and relocate the associated staff as needed
- Implement human resources policies as developed for Capital Health during the SARS epidemic.

Stage 2 (confirmed case) actions

- RECC director announces RECC is now at Level 2, Stage 2
- Business continuity branch to implement the first triage centre
- Business continuity branch to implement a regional healthcare consolidated services centralised management 'core'
- Business continuity branch to consolidate regional healthcare services as necessary
- Implement drug dispensing procedures
- Move pharmacists from clinical practice that has been reduced in volume to other areas that are functioning (eg medicine, critical care, child health, community triage sites)
- Increase the role of pharmacy technician in the dispensary (and lessen the role of the pharmacist in the dispensary)
- Consolidate dispensary functions, including drug purchasing, at certain sites to develop economies of scale and transport medications from central dispensary to satellite areas
- Reduce the drug assessment area function to only drug information service (and reduced staffing therein) and deploy remaining drug assessment pharmacist staff to clinical areas
- Suspend group-based patient pharmaceutical teaching programmes
- Continue to monitor patients that are considered high risk or are receiving medications with a low therapeutic index
- Determine need to restrict access to facilities
- Decentralise warehousing for more efficient supplies access
- Increase public health measures
- Increase infection control
- Increase OHS&W activities
- Restrict access to facilities
- Establish triage assessment centres
- Implement rural triage centres (eg Strathcona Health First)
- Evaluate the need to implement the alternative care centre as required
- Implement immunisation centres
- Request police escorts for vaccine transportation
- Work with community partners to implement care of livestock and house pet procedures
- Implement the staff work at home plan
- Open the physician's triage communication channel (including Medicentre, family practice and specialist offices)
- Communicate with other health regions regarding travel restrictions
- Implement the regional transportation pandemic operations algorithm
- Contact third-party couriers and implement prearranged contract commitments
- Contact supplies and equipment vendors and implement prearranged contracts
- Implement care of the dead procedures
- Implement child welfare procedures

- Consult with municipal and provincial services to assist with the process of coordinating financial support for those individuals and families who require assistance
- Obtain prearranged reefer trucks and establish them in applicable locations
- Open medical examiner communications channel
- Implement palliative care for long-term care sites, where this is not available
- Open social work and support (Salvation Army) communications channel.

Stage 3 (end of first wave) actions

- Maintain response team at reduced capacity
- Update key messages
- Revise clinical care guidelines and prepare for next wave
- Return to Stage 2 with next wave
- Ramp down triage centres, keeping one centre open
- Maintain alternative care centre at required capacity
- Assess staffing levels, roles and gaps
- Maintain ongoing support for care such as intravenous therapy for as long as is needed
- Begin to ‘ramp up’ those services that

were ‘ramped down’ as dictated by staff, supplies and equipment availability

- Begin to ‘ramp down’ those services that were ‘ramped up’ as dictated by staff, supplies and equipment availability.

Stage 4 (containment/demobilisation) actions

- Partial demobilisation and prepare for second wave
- Review procedures and enter into catch-up programmes
- Return to Stage 2 with next wave
- Evaluate and analyse data.

Stage 5 (review and update plan) actions (see infectious disease outbreak plan for actions and operational steps)

- Complete review of all aspects of the process and make recommendations to update procedures
- Evaluate and record learnings
- Incorporate learnings into regional pandemic plan
- Report learnings and share report with municipal, provincial and national representatives.