

INFLUENZA PANDEMIC

BUSINESS CONTINUITY MANAGEMENT GUIDE

*intended for Québec financial
sector participants*

APRIL 2007



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WARNING

This guide is designed to help financial sector participants with business continuity management in preparation for an influenza pandemic.

Although the guide is intended for all financial sector participants, it was designed to assist financial institutions in particular in this regard.

However, it is the responsibility of each organization concerned to determine which parts of this guide may help in preparing its own continuity management plan, according to the nature and importance of its operations as well as its risk profile.

TABLE OF CONTENTS

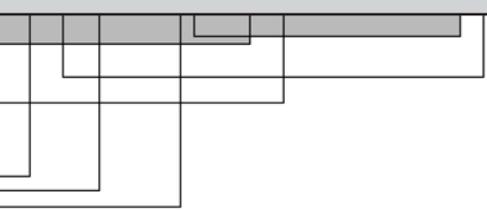
List of Tables	vi
List of Figures	vi
A Look Back	vii
Context	ix
1 Preparing for an influenza pandemic: roles and responsibilities of the AMF and the financial institutions under its supervision	1
<i>Roles and responsibilities of the AMF</i>	1
<i>Roles and responsibilities of financial institutions</i>	2
2 Influenza pandemic risk: an operational risk	3
3 Influenza pandemic risk management: a business continuity management issue	5
4 Adapting the business continuity plan to the risk of an influenza pandemic: development and documentation	9
<i>Preliminary stage – Establish working assumptions (scenarios)</i>	10
<i>Stage 1 – Analyze the impact of an influenza pandemic</i>	13
<i>Stage 2 – Establish a continuity strategy</i>	19
<i>Stage 3 – Develop a business continuity plan</i>	21
<i>Stage 4 – BCP documentation</i>	23
5 Assessing BCP reliability	27
6 Communication protocols	29
7 Awareness and training programs	31
8 Crisis management: responsibility of senior management and board of directors	33
9 Updating business continuity management program	35
Conclusion	37
References	39
Information Sources	41

LIST OF TABLES

TABLE 1		
Business Continuity Management		6
TABLE 2		
Characteristics of an influenza pandemic compared with other disaster types		7
TABLE 3		
Possible scenarios		11
TABLE 4		
Examples of critical business units in the event of an influenza pandemic		16
TABLE 5		
Continuity strategies		20
TABLE 6		
Communication protocols by phase of an influenza pandemic		29
TABLE 7		
Updating business continuity management program		36

LIST OF FIGURES

FIGURE 1		
Effects and consequences of influenza pandemic risk		4
FIGURE 2		
Impacts of an influenza pandemic on an institution and its environment		14



A LOOK BACK

The *Autorité des marchés financiers* (AMF) is preparing a series of publications and press releases intended for Québec financial sector participants in order to assist them in preparing for a possible influenza pandemic.

On August 9, 2006, the AMF released a guide for preparing for a possible influenza pandemic intended for financial institutions.

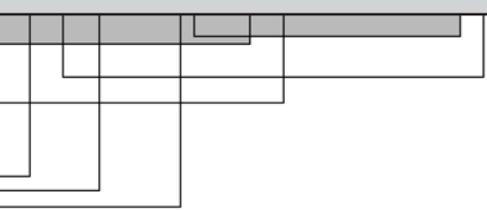
Mindful of the importance of this action for all the entities it oversees, the AMF decided to extend its awareness campaign to all financial sector participants. In March 2007, it also published a second guide intended for all entities under its supervision. It is based on an update of the document intended for financial institutions published in August 2006.

Both guides were designed to raise awareness among these entities of the risk of a possible influenza pandemic, the potential impacts of such a pandemic and the importance of being prepared. They sketched out broad orientations and actions that should be undertaken.

The guides brought the following points to the fore:

- ❑ Considerable uncertainty surrounding the characteristics of a possible influenza pandemic (time of occurrence, duration, scope, etc.).
- ❑ Historical data unsuitable for making projections for preparation and modeling purposes.
- ❑ Lower demand expected due to considerable changes in consumer habits and increased aversion to risk on the part of investors.
- ❑ Reduced productivity expected due to high rates of absenteeism.
- ❑ Importance of adopting a business continuity plan.

This document reaffirms the importance for all financial sector participants of preparing a business continuity plan tailored to the specific risks of an influenza pandemic.



CONTEXT

The *Autorité des marchés financiers* (AMF) considers it essential that Québec financial sector participants be adequately prepared for a possible influenza pandemic. This means they must have business continuity management plans in place that establish measures to identify and attenuate impacts and ensure the continuity of an institution's critical functions. The measures must be adapted to the characteristics of a possible influenza pandemic.

To this end, the AMF is releasing this guide to business continuity management in the event of an influenza epidemic. Its principal purpose is to outline business continuity management practices for Québec's financial sector participants. It is also designed as a tool to supply basic approaches in addressing the practical issues likely to be encountered by financial sector participants in preparing their business continuity plans, including concrete examples.

The influenza pandemic risk management recommendations in this guide comply with the guidelines of the Basel Committee on Banking Supervision (Basel Committee), the International Association of Insurance Supervisors (IAIS), the International Organization of Securities Commissions (IOSCO) and the Joint Forum¹ concerning good risk management practices, operational risk management, and business continuity management. Based on international principles adapted and clarified as the situation requires, the AMF has established sound practices that Québec financial institutions should follow for effective influenza pandemic risk management. The AMF believes that all Québec financial sector participants can generally adopt these same practices, which serve as the highest standards in the matter.

1. The Joint Forum, which was established in 1996, is a channel for dialogue and exchange among three international organizations charged with developing standards for the financial industry: Basel Committee on Banking Supervision (Basel Committee), the International Organization of Securities Commissions (IOSCO) and the International Association of Insurance Supervisors (IAIS).

This guide has three major points as its structural framework:

- ❑ The role and responsibilities of the AMF and Québec financial sector participants in preparing for an influenza pandemic;
- ❑ The risk of an influenza pandemic as relating to operational risks and business continuity management;
- ❑ The various aspects of business continuity management adapted to the risk of an influenza pandemic.

1 PREPARING

for an influenza pandemic: roles and responsibilities of the AMF and the financial institutions under its supervision

ROLES AND RESPONSIBILITIES OF THE AMF

Through its mission, the AMF must assume a strategic role with respect to influenza pandemic preparation. This role implies that the AMF will:

- ❑ Ensure the continuity of its own operations;
- ❑ Raise awareness among Québec financial sector participants of the importance of preparing for a possible influenza pandemic;
- ❑ Provide broad guidelines to Québec financial sector participants to help co-ordinate their actions;
- ❑ Help ensure that Québec financial sector participants prepare adequately for this risk;
- ❑ Act as a communications and co-ordination centre for the Québec financial sector.

In this regard, the AMF has identified five categories of financial sector participants whose roles and responsibilities with respect to influenza pandemic preparations are crucial to the effective operation of the Québec financial sector and to the prevention of systemic risks. The categories of participants identified are as follows:

- ❑ Financial institutions: deposit institutions, life insurance companies and damage insurance companies;
- ❑ Exchanges and clearing houses;
- ❑ Self-regulatory organizations;
- ❑ Securities dealers, firms and advisers²;
- ❑ Firms, representatives and independent partnerships³;
- ❑ Issuers.

The AMF believes these entities must be adequately prepared for an influenza pandemic in terms of their roles and responsibilities in such a context.

2. Within the meaning of the Securities Act

3. Within the meaning of an Act respecting the Distribution of Financial Products and Services

ROLES AND RESPONSIBILITIES OF FINANCIAL INSTITUTIONS

Financial institutions are subject to predetermined requirements related to risk management and business continuity management as prescribed by the regulatory authorities that supervise them. These requirements stem primarily from the guiding principles set out by international organizations.⁴ These principles encourage regulatory authorities to ensure that the financial organizations under their supervision put in place management policies and processes for risk assessment, monitoring and mitigation. Regulatory authorities are also responsible for ensuring that institutions' risk management programs are appropriate to their specific risk profiles.

The sound operational risk monitoring and management practices released by the Basel Committee on Bank Supervision also cover the need for regulatory authorities to ensure that financial institutions under their purview adopt sound operational risk management practices. The risk of an influenza pandemic is an operational risk and is therefore part of observance of the principles. According to these principles,⁵ regulatory authorities must require that all financial institutions, regardless of size, have an effective framework in place to manage operational risks as part of their overall approach to risk management. Furthermore, they must conduct regular evaluations of the operational risk management procedures and practices of financial institutions they supervise.

Influenza pandemic risk management also falls under the basic continuity management principles established by the Joint Forum. Regulatory authorities have a responsibility to verify that the business continuity plans of financial institutions under their supervision are reliable.⁶

The AMF is committed to these principles that stem from high standards and the best practices.

In establishing their risk management practices, financial institutions under the supervision of the AMF are invited to refer to the principles set out by these international organizations. These same principles can be applied to influenza pandemic risk management by adapting them to the particularities of the risk at hand.

4. Basel Committee on Bank Supervision, Bank for International Settlements. *Core Principles for Effective Banking Supervision*, October 2006. International Association of Insurance Supervisors. *Insurance Core Principles and Methodology*. October 2003.

5. For more details, see principles 8 and 9 of the paper *Sound Practices for the Management and Supervision of Operational Risk*, published by the Basel Committee, Bank for International Settlements, February 2003, p. 13.

6. For more details, see principle 7 of the Joint Forum consultative document *High-Level Principles for Business Continuity*, August 2006, p. 18.

2 INFLUENZA

pandemic risk: an operational risk

In order to well define the risk of an influenza pandemic, it is important to place it in the broader context of operational risk. Regulatory authorities need to make sure that the institutions they supervise integrate influenza pandemic risk management into operational risk management, while also considering the strategic and reputational aspects of this specific risk.

The Basel Committee defines operational risk as the risk of loss resulting from inadequate or failed internal processes, people, or systems or from external events.⁷ Although reputation risk is not specifically considered an operational risk, it remains a major part of sound risk management.

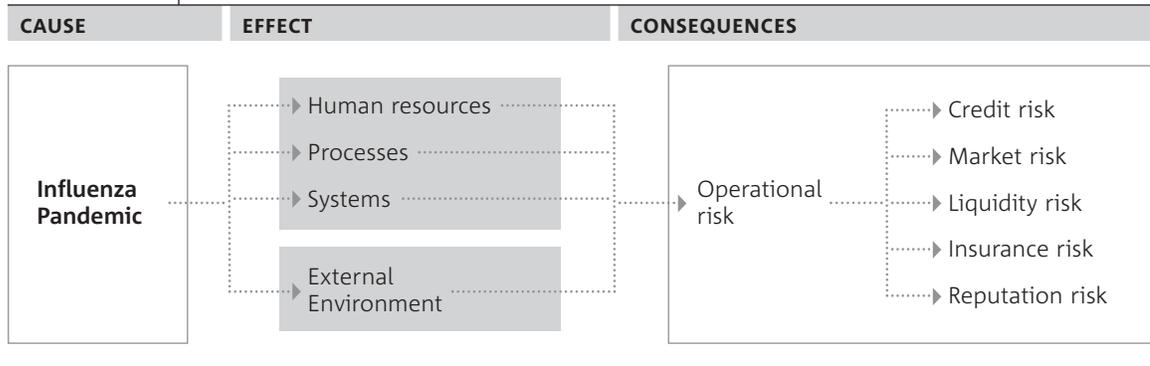
For the case at hand, operational risk will be defined as any event that causes disruption, slowdown, or interruption in an institution's operations and that results in financial losses or damage to an institution's image.

On this basis, influenza pandemic risk is an external event presenting operational risks with possible effects on internal processes, people, or systems or an institution's environment and causing a possible slowdown or interruption in operations. An incident may also have consequences in traditional financial risk areas in addition to affecting an institution's reputation, depending on the sector of activity.

Since the pandemic risk trigger is an external event, which means that it is outside the control of financial institutions, institutions need to identify and understand the possible impact on human resources, processes, and systems while taking into account changes to the institutional environment in order to minimize the consequences for operations and the institution's financial health (Figure 1).

7. This definition includes legal risk, but excludes strategic and reputation risk.

FIGURE 1 Effects and consequences of influenza pandemic risk



Source: *Autorité des marchés financiers*, 2007

The management of influenza pandemic risk should therefore be intimately connected with a financial institution’s organizational structure, since the realization of this risk has repercussions involving all aspects of the organization (human resources, processes, and systems).

3 INFLUENZA

pandemic risk management: a business continuity management issue

The Basel Committee⁸ acknowledges that a financial institution's choice of operational risk management methods will depend on a number of factors such as size and technical development as well as the nature and complexity of its operations. Furthermore, operational risk management methods depend on the nature of the incident to be considered. Despite differences among financial institutions, effective operational risk management preparations should cover certain essential aspects such as clearly formulated strategies and the active involvement of senior management and the board of directors.

More specifically, the Basel Committee paper states that institutions should have in place contingency and business continuity plans to ensure their ability to operate on an ongoing basis and limit losses in the event of severe business disruption.⁹ The Joint Forum was therefore mandated to establish the guiding principles for business continuity. The document published by the Joint Forum¹⁰ presents business continuity management as an approach that includes policies, standards and procedures to ensure the continuity and recovery of an institution's essential operations in the event of a disruption.¹¹

The goal of business continuity management is to reduce operational risk as well as financial risks, reputation risks, and other material consequences resulting from a disruption.

Business continuity management comprises primarily business impact analysis, continuity strategy, and the development and documentation of a business continuity plan (BCP). Business continuity management should also deal with BCP reliability assessment, staff training and awareness programs, internal and external communications protocols as well as crisis management. To be able to manage business continuity effectively and to draw on a BCP that is ready for deployment at any time, it is crucial to set up a process for updating the business continuity management program that takes into account changes to the organization and its environment.

8. Basel Committee on Bank Supervision, Bank for International Settlements. *Sound Practices for the Management and Supervision of Operational Risk*, February 2003.

9. Idem, Principle 7, p. 12

10. The Joint Forum published, in August 2006, under the auspices of the Basel Committee on Banking Supervision and the International Association of Insurance Supervisors (IAIS), a consultative document entitled *High-Level Principles for Business Continuity*.

11. Disruptions to which financial institutions can be exposed include internal and external fraud; employment practices and workplace safety; client, product and commercial practices; damage to physical assets; business disruption and system failures; execution, deliveries and processes.

TABLE 1 **Business Continuity Management**

		Preliminary stage Establish working assumptions (scenarios)			
BCP Development	Stage 1	Analyze impact of an influenza pandemic	Assessing BCP reliability		Updating business continuity management program
	Stage 2	Establish a continuity strategy			
	Stage 3	Develop a BCP			
	Stage 4	BCP documentation			
Communication protocols					
Training and awareness programs					
Crisis management					

Source: *Autorité des marchés financiers*, 2007

Some institutions already have BCPs or other similar measures as part of their operational risk management process. Unlike other risks faced by institutions, the risk of an influenza pandemic may be anticipated. Consequently, institutions should be adequately prepared to manage this risk and do so proactively. Even institutions that are highly advanced in the area of operational risk management need to reconsider their risk management strategies in light of the distinctive characteristics associated with an influenza pandemic. The following table illustrates these characteristics in comparison with other types of disasters and disruptions.

TABLE 2 **Characteristics of an influenza pandemic compared with other disaster types**

	INFLUENZA PANDEMIC	NATURAL DISASTERS, COMPUTER BREAKDOWNS, TERRORIST ATTACKS, ETC.
Duration	Extended (from 12 to 36 months) with several waves	Isolated
Nature of direct repercussions	Human resources	Physical systems and infrastructure
Severity	Unknown	Can be assessed
Geographic scope	International	Limited geographically to affected areas
Occurrence	Progressive (anticipated risk)	Sudden (unanticipated risk)

Source: *Autorité des marchés financiers, 2007*

4 ADAPTING

the business continuity plan to the risk of an influenza pandemic: development and documentation

The process leading to the development of a BCP adapted to the risk of an influenza pandemic and the preparation of related documents can be broken down into certain stages, as illustrated in table 1.

First, it is crucial to establish working assumptions that will guide the preparation and documentation of the BCP. These assumptions will also be used to assess its reliability.

The next stage is to conduct an operational impact analysis. This involves a series of measurements (quantitative and qualitative) drawn from various scenarios regarding their disruptive effects on the institution's operations, financial health, and reputation.

The results of the impact analysis help establish a continuity strategy to set the financial institution's priorities during a crisis.

The BCP should then provide detailed guidelines for implementation of the continuity strategy. This plan is an important element of business continuity management, as it constitutes the documented action plan that defines the procedures and determines the resources required for continuity and recovery of institutional operations following a disruption.

BCP preparations

To successfully prepare a BCP, it is necessary to establish an organizational structure for the project and assign responsibilities to each entity concerned. This structure could comprise a working committee, a crisis committee, and a monitoring committee. Where the size of an institution prevents the formation of these types of committees, an individual should still be assigned responsibility for influenza pandemic preparedness.

The working committee is responsible for carrying out the BCP development and documentation stages. A multidisciplinary team is advisable. The results of its work should be documented and submitted to senior management for follow-up and approval. A report should be submitted to the board of directors.

The crisis committee becomes involved principally during the crisis period, and responds to situations not foreseen in the BCP. It should be made up of members of senior management and some representatives of the working committee.

The working committee and crisis committee need to be provided with reliable information necessary for business continuity management and for decisions necessary during the crisis period. A monitoring committee should therefore be put in place.

PRELIMINARY STAGE ESTABLISH WORKING ASSUMPTIONS (SCENARIOS)

The guide published by the AMF¹² in August 2006 recommended that financial institutions adopt a scenario-based approach in developing their BCPs. This approach helps address the uncertainties that characterize this risk.

A scenario can be defined as a series of assumptions used to characterize a situation and to distinguish it from a set of possible solutions. It is advisable to establish simple and precise working assumptions according to scenarios. At this stage, assumptions need to take into account the specific characteristics of an influenza pandemic as well as external factors affecting an institution's continuity of operations (Table 3).

Scenarios will be expanded using impact analysis of the pandemic's effect on the institution's operations and environment.¹³ Once the scenarios are complete, they can serve as situational statements in developing a BCP.¹⁴ The scenarios can also be used to develop simulations for BCP testing.¹⁵ In addition, they can be used to forecast the financial impact of an influenza pandemic on the financial institution.

Although such estimations are at the discretion of institutions, the AMF expects the assumptions adopted to be compatible with the *Québec Pandemic Influenza Plan* released by the Québec Department of Health and Social Services,¹⁶ be appropriate to the institution's size and complexity, and be representative of its area of operations.

12. For more details, see "Influenza Pandemic Risk Assessment," *Influenza Pandemic Guide for Québec Financial Sector Participants*, Autorité des marchés financiers, August 2006, updated April 2007.

13. "Stage 1 – Analyze impact of influenza pandemic" in this document.

14. "Stage 3 – Develop a business continuity plan" in this document.

15. See Part 5 "Assessing BCP reliability" in this document.

16. Ministère de la Santé et des Services sociaux du Québec. *Québec Pandemic Influenza Plan*, March 2006.

TABLE 3 Possible scenarios

ASSUMPTION	BASE CASE SCENARIO	WORST CASE SCENARIO	IMPLICATIONS
DURATION OF INFLUENZA PANDEMIC			
Pandemic duration	12 months	36 months	Period covered by BCP Crisis period BCP adjustment period (between two crises)
Duration of wave	2 to 3 months	3 to 4 months	
Period between waves	3 to 4 months	2 to 4 months	
IMPACTS ON POPULATION			
Morbidity rate (disease infection)	15 to 35%	30 to 40%	These elements help determine the absenteeism rate and enable insurance companies to estimate claims for medication, hospitalization and death.
Antiviral treatment rate (all cases)	15 to 35%	30 to 40%	
Hospitalization rate	10% of cases	15% of cases	
Death rate	2% of people infected with disease	4% of people infected with disease	
Duration of illness	1 week	2 weeks	
ABSENTEEISM			
Absence from work	2 to 3 weeks	2 to 6 weeks	Allows projection of daily absenteeism rate as well as the costs of short-term salary insurance claims.
Rate of absenteeism – influenza	15 to 35%	35 to 50%	Absenteeism is gradual over duration of wave. For BCP preparation, a daily absenteeism rate of 35 to 50% is suggested as an assumption.
Absenteeism rate – additional (100% of illness-related absenteeism)	15 to 35%	35 to 50%	
Daily absenteeism rate	35%	50%	
GEOGRAPHIC SCOPE			
Scope	International	International	Alternative sites are not an effective solution in this case.

TABLE 3 Possible scenarios (continued)

ASSUMPTION	BASE CASE SCENARIO	WORST CASE SCENARIO	IMPLICATIONS
SPREAD			
Period between the emergence of a new pandemic viral strain and first wave in Canada	3 to 4 months	1 to 2 months	Period for activating BCP. Note two possible Canadian scenarios. Disease first appears in Vancouver or Toronto and spreads to the rest of the country. Lag before first cases in Québec depends on Canadian point of entry.
Canadian entry point	Vancouver	Toronto	
Period between first wave in Canada and first wave in Québec	3 months	1 month	
VACCINES			
Development of vaccines	4 to 6 months from identification of viral strain	6 to 12 months from identification of viral strain	The BCP should consider that only basic preventative measures, such as hand washing, judicious use of antivirals and the limitation of human contact, can minimize the spread of the virus.
Production capacity	Limited	Very limited	
Availability	Progressive	Rare	
EXTERNAL FACTORS			
Essential services	Slowdown	Interruption	An institution's business continuity depends on a variety of factors (travel, client contact, supplier inputs, etc.). These may not be at optimal levels during an influenza pandemic. The BCP must identify these factors and take into consideration their level of functioning.
Movement of persons	Limited	No public transportation, quarantines for affected areas	
Buildings with large concentrations of people	Limited access	Closed	
Schools	Closed	Closed	
Internet	Slowed	Overwhelmed	
Suppliers	Reduced ability to meet commitments	Inability to meet commitments	
Clients	Increase in demand for services	Panic	

Source: *Autorité des marchés financiers*, 2007

STAGE 1

ANALYZE THE IMPACT OF AN INFLUENZA PANDEMIC

As mentioned above, an influenza pandemic impact analysis should be based on the fundamental elements of the financial institution (human resources, processes, and systems). Analysis should also cover relations with third parties while taking into consideration changes in the external environment. Figure 2 illustrates these key elements as well as interactions with the external environment. Although the order of the elements and analytical approach adopted do not have a significant effect on results, it is critical to cover all elements for the results of the analysis to be complete and reliable.

1. Analyzing impacts on institution's environment

The first impact analysis should consider the institutional environment. This analysis should lead to a consideration and assessment of the following:

- ❑ Impacts on the population connected geographically and economically with the institution (for the institution, this population is made up of its human resources, clients, suppliers, beneficiaries, etc.);
- ❑ Financial and economic impacts on the markets in which the institution operates;
- ❑ Impacts on the industries in which the institution operates.

It is essential to take systemic risk into consideration in the analysis of a financial institution's environment. In the case of an influenza pandemic, the likelihood of systemic risk is high because the effects of the pandemic could be international in scope, fuelled by the interconnection of financial markets and the interdependence of economic systems.

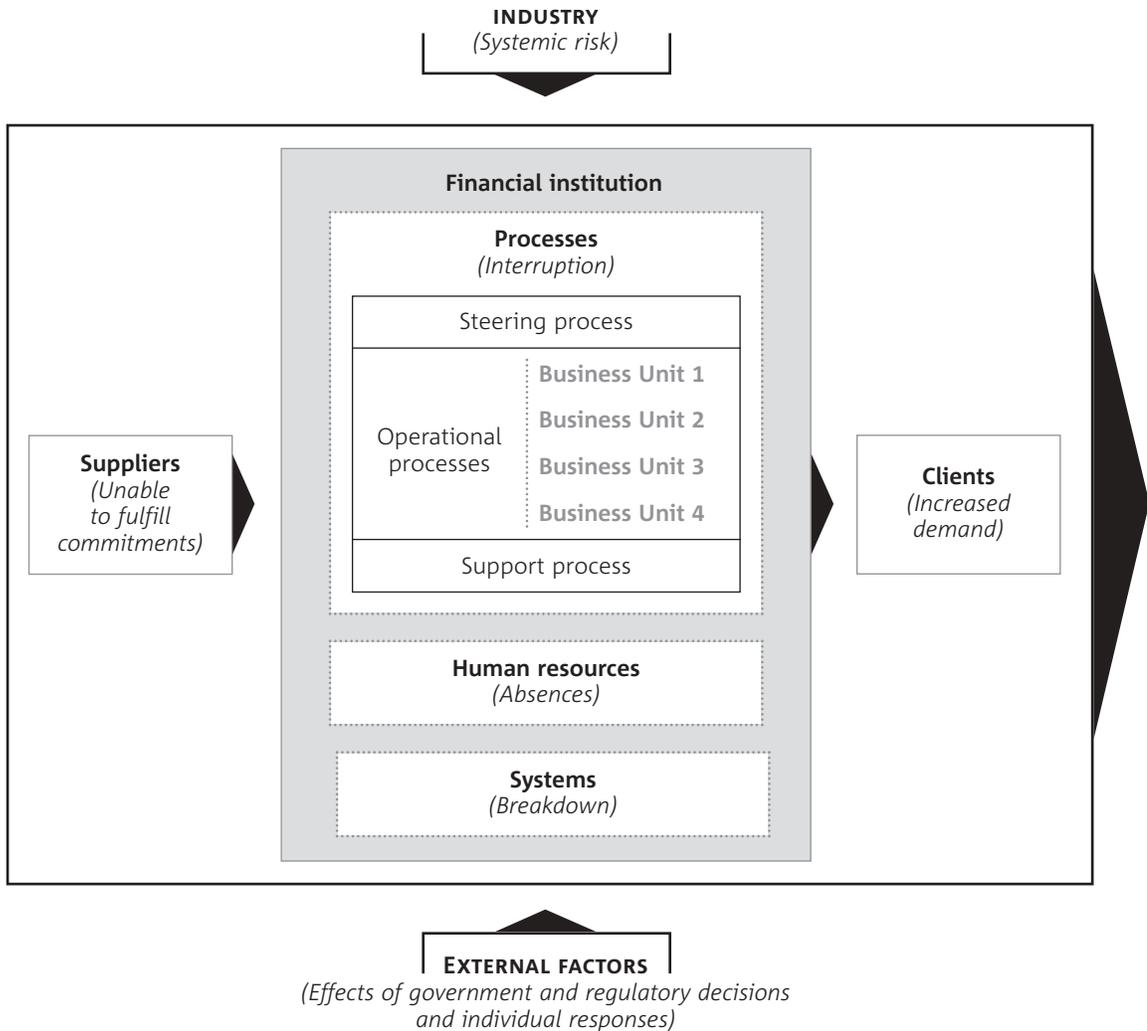
Institutions must also become familiar with the influenza pandemic plans established by governmental and regulatory authorities.¹⁷ These plans include measures to prevent the spread of an influenza pandemic (closure of buildings with large concentrations of people, interruption of public transportation, etc.).

At this stage, impact analysis should be summary in nature and primarily focus on identifying the impacts of an influenza pandemic on the institution's environment.¹⁸

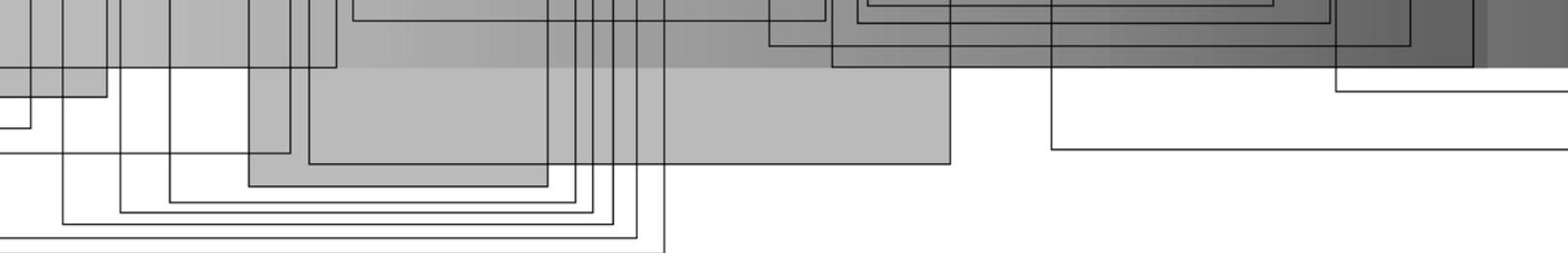
17. Ministère de la Santé et des Services sociaux du Québec. *Québec Pandemic Influenza Plan*, March 2006.

18. The pandemic guide published by the AMF in August 2006 and updated April 2007 provides additional details on the possible impacts of an influenza pandemic on Québec financial sector participants, pp. 7 to 14.

FIGURE 2 Impacts of an influenza pandemic on an institution and its environment



Source: Autorité des marchés financiers, 2007



2. Analyzing impact on institution

Financial institutions should structure their analyses around the five components that are at the core of operational continuity: suppliers, clients, human resources, systems, and processes. As shown in figure 2, these components are the most likely to be directly affected by an influenza pandemic. The interactions among the various components should also figure in impact analysis. In responding to the needs of clients, it is therefore best to consider processes as the central component, since the other components (suppliers, clients, human resources, and systems) all flow from them.

Institutional processes can be broken down into operational processes, support processes, and management or steering processes. Operational processes can be defined as the processes that constitute the institution's primary operations. Commonly referred to as business units, these processes include all the operations needed to perform the institution's mission. Support processes stem from operational processes, as they contribute to operational effectiveness by providing necessary resources. Operational processes are directed by management or steering processes according to the institution's strategic orientations.

The first stage of analysis consists of identifying the institution's various business units (operational processes) and their positions within the institution. Next it will be necessary to identify the business units that are of critical importance in the event of an influenza pandemic. Critical business units are those that an institution would consider vital to its operations, that is, those that pertain to the institution's primary activities or those that create the most value. In the context of operational risk management specifically, critical business units are those that perform the operational functions whose slowdown or interruption over a certain period would have repercussions for the institution's operations and a major impact on clients or business partners.

The designation of critical business units in the context of an influenza pandemic preparedness should take into consideration the gradual nature of this risk. The institution should not by default take the business units already identified as critical in the event of a natural disaster, for instance. The following table gives examples of business units that might be viewed as critical in the context of influenza pandemic preparedness.

TABLE 4 **Examples of critical business units
in the event of an influenza pandemic**

ALL INSTITUTIONS	
<ul style="list-style-type: none"> <input type="checkbox"/> Risk management control functions: credit risk, market risk, liquidity risk and operational risk <input type="checkbox"/> Control of institution's financial standing (including capital) <input type="checkbox"/> Management of current positions for liquidity purposes (portfolio management) <input type="checkbox"/> On-line services management <input type="checkbox"/> Information centres <input type="checkbox"/> Information security 	
INSURANCE COMPANIES	DEPOSIT-TAKING INSTITUTIONS
<ul style="list-style-type: none"> <input type="checkbox"/> Claims payouts <input type="checkbox"/> Premium collection 	<ul style="list-style-type: none"> <input type="checkbox"/> Cash availability including automated teller transactions <input type="checkbox"/> Preauthorized payments <input type="checkbox"/> Direct deposits <input type="checkbox"/> Credit repayments <input type="checkbox"/> Clearing activities between institutions

Source: *Autorité des marchés financiers, 2007*

Business units deemed to be non-critical should still remain involved in business continuity management, particularly so as to be able to evaluate staff skills and anticipate possible reassignments to critical business units.

Impact analysis of an influenza pandemic on critical business units involves determining the factors that affect the function of each critical business unit (suppliers, clients, human and material resources, processes and interactions, etc.).

The boxes at the end of this section provide further details for ensuring the continuity of critical business units.

3. Compiling impact analysis results according to critical business unit and scenario

The key to this stage consists in refining the definition of what constitutes the normal functioning of critical business units and in specifying the impact of an influenza pandemic, based on the scenarios established in the preliminary stage.

Supplier analysis

Supplier analysis should be comprehensive and include outsourcing agreements.¹⁹ The institution needs to make a list of all suppliers approved by critical business units; invariably there will be some supplier overlap between units. For each supplier, it will be necessary to identify the services supplied, the business unit served and the importance of these services; a list of alternative suppliers for each service should also be prepared.

For services determined to be critical for the institution, discussions should be held with the suppliers. These discussions are intended to raise awareness of the risks associated with an influenza pandemic and to encourage preparedness. For its part, the financial institution should provide suppliers with a list of the critical services it wishes to maintain in the event of an influenza pandemic, as well as specify the minimum acceptable level of service delivery. Both sides need to agree on what can be supplied or required, since it is likely that suppliers will also experience slowdowns in the activities and services they consider necessary for their own clients. At the end of the discussions, the institution may ask key suppliers to provide contact information for resource persons during the crisis period as well as written confirmation of their level of influenza pandemic preparedness.

When alternate suppliers are identified, the institution should also work out a strategy with them in the event of an influenza pandemic.

Client analysis

The analysis of clientele should be based on the nature of the institution's operations. Impact analysis should be carried out according to client category. It is important to determine the possible impact of an influenza pandemic on each client category and essential client needs that the institution must continue to meet during the pandemic period.

¹⁹An outsourcing agreement is a mechanism whereby an entity calls on a service provider to perform an activity, function or management role that it currently fulfills, or could fulfill, by itself.

Overview of human resources for each critical business unit

Each business unit identified as critical must determine the minimum number of employees and the key skills it requires in order to continue functioning. The institution should then prepare a profile of critical business unit staff, covering in particular the following risk factors:

- ❑ Human density based on resource deployment in the office space
- ❑ Employees with school age children
- ❑ Employees who use public transit

These factors influence the potential impact of an influenza pandemic on the institution's human resources.

Acceptable functioning of material resources

Each business unit identified as critical should specify the material resources it uses (computer equipment, office equipment, systems, and so forth) and the functional level of these resources required to ensure operational continuity during a crisis. In terms of possible impact on the material resources of a financial institution, the following points could be considered:

- ❑ Computer and technical support staff may experience the same level of absenteeism and may not be able to adequately ensure that systems, computer infrastructure, and security measures continue to function properly.
- ❑ The normal function of an institution's material resources may be disrupted during a crisis by intensive use of these resources as a measure to limit the spread of the virus. Among these measures: videoconferencing, telephone and Internet communication, on-line services, and telecommuting.

Interacting processes

Minimum operational levels should be established for processes that interact with each identified critical business unit, in order to ensure business continuity in these units. Interacting processes are operational processes that support the critical business unit and may report to other critical or non-critical business units.

STAGE 2

ESTABLISH A CONTINUITY STRATEGY

Depending on the nature and severity of the impact of the influenza pandemic on the environment of the financial institution and its principal components, the institution should establish a continuity strategy. The strategy adapts the institution's objectives as articulated in the mission statement for a crisis period. These may fall into four categories:

- ❑ Strategic objectives: contribute to the institution's mission;
- ❑ Operational objectives: aim to maximize resource use toward the attainment of strategic objectives;
- ❑ Compliance objectives: ensure compliance with laws and regulations in effect;
- ❑ Disclosure objectives: ensure the accuracy of information being disclosed.

Generally, these objectives are laid out in an institution's medium- and long-term strategic plan. Given the extended duration of an influenza pandemic, re-examination of the institution's objectives is crucial.

Institutional objectives should be reconsidered in light of the institution's priorities in time of crisis. These priorities would in particular focus on the protection of employees, the financial survival of the institution, and the maintenance of basic client services. These priorities should be respected in developing the BCP.

Table 5 outlines possible adaptations to a financial institution's continuity strategy in anticipation of a period of crisis. These adaptations are for illustrative purposes only and do not constitute an exhaustive list of objectives for consideration.

TABLE 5 **Continuity strategies**

OBJECTIVES	NORMAL	CRISIS PERIOD
Strategic objectives	<input type="checkbox"/> Financial soundness	<input type="checkbox"/> Financial survival
	<input type="checkbox"/> Provision of competitive products and services	<input type="checkbox"/> Maintenance of essential client services
	<input type="checkbox"/> Quality of client services	
	<input type="checkbox"/> Prospecting	<input type="checkbox"/> Serving existing clients
	<input type="checkbox"/> Launching new products and services	<input type="checkbox"/> No new products or services
	<input type="checkbox"/> Strategic watch	<input type="checkbox"/> Pandemic monitoring
Operational objectives	<input type="checkbox"/> Strategic alliances with business partners	<input type="checkbox"/> Maintenance of communication and co-operation with business partners
	<input type="checkbox"/> Acquisition of skilled human resources	<input type="checkbox"/> Protection and support of employees
	<input type="checkbox"/> Exploiting cutting-edge material resources	<input type="checkbox"/> Ensuring that technological resources function at an acceptable level
	<input type="checkbox"/> Establishing procedures that optimize human and material resources in the pursuit of added value	<input type="checkbox"/> Ensuring uninterrupted operation of critical business units
Compliance objectives	<input type="checkbox"/> Ensuring delivery of quality operational inputs on a timely basis (relations with suppliers)	<input type="checkbox"/> Ensuring that suppliers are able to honour predetermined commitments during this period
	<input type="checkbox"/> Compliance with laws, regulations, standards, directives, etc.	<input type="checkbox"/> Following government directives <input type="checkbox"/> Communicating with regulatory authority if non-compliance with regulatory requirements is anticipated during the crisis period
Disclosure objectives	<input type="checkbox"/> Disclosure according to legal, regulatory, and other requirements	<input type="checkbox"/> Communicating with regulatory authority regarding priority objectives, particularly with regard to disclosure ²⁰

Source: *Autorité des marchés financiers*, 2007

20. The AMF will notify financial institutions under its supervision of priority disclosure objectives in the event of a pandemic.

STAGE 3 DEVELOP A BUSINESS CONTINUITY PLAN

The measures adopted and outlined in the BCP should reduce as much as possible the impact of an influenza pandemic on the financial institution (results of stage 1) and meet the continuity strategy objectives (results of stage 2). These measures should be worked out for each of the scenarios established in the preliminary stage.

The working committee should compile the results for stages 1 and 2 in order to highlight the continuity objectives for each critical business unit and the restrictions identified in each case.

At this stage, operational aspects should be considered by representatives from each business unit identified as critical, with the assistance of the working committee.

In order to identify measures to ensure operational continuity, the institution can perform simulation exercises involving designated representatives from each critical business unit. The main purpose of these exercises is to find ways to mitigate the pandemic's effects on critical business units and decide which measures are necessary for ensuring operational continuity. Simulations need not necessarily be acted out; they could simply be discussed.

To ensure the success of simulations, the following information could be provided to designated representatives:

- ❑ **Scope of simulation:** Each simulation should involve a critical business unit and the processes involved in its operations.
- ❑ **Purpose of simulation:** Inform participants that the exercise will be used to determine measures to be adopted in the BCP.
- ❑ **Simulation statement:** Consolidated impact analysis results for each critical business unit could be used as background statements, as shown in the sample provided.
- ❑ **Conduct of simulation:** Participants should use the background statements and related information to help formulate suggestions for dealing with issues. Simulation information could be provided to participants in advance; a round table format would enable participants to share and discuss the proposals from each critical business unit.

Sample simulation exercise

Critical business unit A of a financial institution involves 3 operational processes (X, Y and Z). According to the institution's influenza pandemic business continuity strategy, only processes X and Y need to be maintained. For each of the processes (X, Y and Z), information is available on the necessary function level of their support factors (human and material resources, suppliers, clients, and interacting processes) for each scenario. Information on interacting processes reveals that process X employs results of part of process Z. Process Y uses results of processes M and N of business unit B, which is not considered critical. Process Y is served by process D, which is outsourced.

- ❑ The **continuity objectives** of critical business unit A are:
 - ❑ Ensure the continuity of processes X and Y.
- ❑ **Restrictions on these objectives** are:
 - ❑ Ensure the continuity of the part of process Z that provides results essential to the functioning of process X;
 - ❑ Ensure the continuity of the parts of processes M and N that provide results essential to the functioning of process Y;
 - ❑ Make sure that the supplier of outsourced services is able to fulfill its commitments.
- ❑ **Restrictions on the factors supporting these processes:**
 - ❑ Human resources: the number of employees available, considering an absenteeism rate of 40% for the base-case scenario and 50% for the worst-case scenario;
 - ❑ Similar treatment for other factors.

- ❑ **Related information:** Participants need to be provided with sufficient information on the scenarios used to establish working assumptions and the institution's business continuity strategies.
- ❑ **Instructions for participants:** Based on the simulation statement and related information, participants should answer such questions as:
 - ❑ What are the business unit's continuity objectives?
 - ❑ What restrictions present themselves?
 - ❑ What measures should be adopted?
 - ❑ What functions ensure the continuity of each process, given the restrictions identified?
 - ❑ What problems remain unsolved (e.g., not enough employees)?

The instructions should be used as a reference tool by participants. Templates may be provided to facilitate the compilation and treatment of suggestions.

The use of simulations enables staff to be involved in developing the BCP. This input generates a plan that is more practical, more realistic and more suitable.

The working committee should be responsible for co-ordinating the various steps. It should aim for a BCP that integrates the results of the various exercises conducted for the financial institution as a whole or the group.

STAGE 4 BCP DOCUMENTATION

The BCP needs to be documented so as to provide a record of the operational continuity measures that the institution plans to adopt in the event of a crisis. BCP documentation can therefore be considered a procedures manual of sorts.

In the event of an influenza pandemic, BCP documentation will be used over an extended period—the duration of the pandemic—and will serve as the basic reference tool for an event characterized by a number of unknowns. For this reason, documentation of the influenza pandemic BCP needs to be detailed. It should contain not only measures identified during preparation of the BCP itself, but also the basic information used in establishing these measures so that stakeholders can develop new measures in response to unforeseen circumstances.

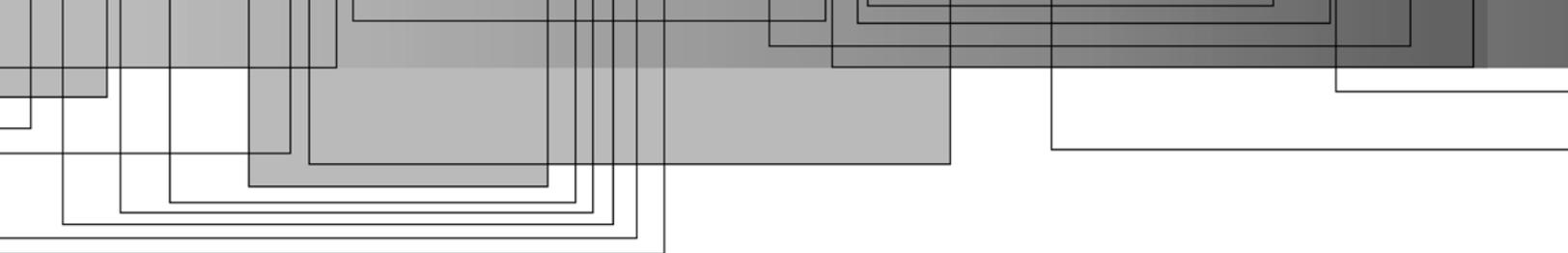
For an influenza pandemic, BCP documentation should serve as the following:

- ❑ A methodological reference tool during the crisis period for all stakeholders;
- ❑ An information source for the crisis committee in its decision making in unforeseen circumstances;
- ❑ A training and awareness tool for employees;
- ❑ A basis for monitoring and testing the effectiveness of the financial institution's business continuity management, either by in-house staff or external parties.

BCP documentation can be composed of one document or several. The most crucial document is the one containing guidelines for critical business units to ensure operational continuity in the event of an influenza pandemic.

BCP documentation should therefore include the following:

- ❑ A summary profile of the institution
- ❑ The composition and role of the crisis committee
- ❑ The composition of the working committee and emergency contact information
- ❑ A list of essential staff and emergency contact information
- ❑ Working assumptions (scenarios)
- ❑ Measures adopted by various government authorities
- ❑ A list of critical business units and processes to be maintained in the event of a pandemic, including interacting processes, even if they do not report to critical business units
- ❑ A data sheet for each critical business unit (normal functions and anticipated functions based on scenarios)
- ❑ A list of employees in non-critical areas listing their skills and potential for reassignment to critical business units
- ❑ A list of critical business unit suppliers, including minimum service delivery level agreed on, and emergency contact information for resource persons

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- ❑ A list of alternative suppliers contacted and details of agreements with such suppliers
 - ❑ An explanation of continuity strategies developed
 - ❑ Communication protocols
 - ❑ Training and awareness programs

By fully detailing recommended measures and functional objectives for the institution in times of crisis, the BCP documentation will build confidence in the institution's ability to ensure business continuity management.

5 ASSESSING

BCP reliability

Assessing the financial institution's ability to manage the crisis as provided for in the BCP is an important part of business continuity management. To this end, the AMF expects financial institutions to test their BCP, evaluate its effectiveness, and regularly ensure it is updated.²¹ Testing should make it possible to identify any weaknesses in the BCP and the changes required to address them. Such testing also serves to raise awareness among staff and help familiarize them with the roles and responsibilities assigned to them as part of the BCP.

For the present purposes, BCP assessment should take place on two levels:

- **Theoretical assessment:** Using the scenarios established from the working assumptions, the crisis committee should review the BCP documentation to note any inconsistencies and irregularities. The same assessment should be conducted (by the personnel involved during the crisis period) for each critical business unit. As required, issues with the BCP should be addressed before moving on to practical assessment.
- **Practical assessment:** Practical assessment of the BCP is analogous to crisis simulation in order to test the plan's effectiveness, the preparation level of staff, and the ability of the crisis committee to deal with the unexpected. Such simulations can take many forms and require different levels of involvement. The following are some of the options available to financial institutions for the purpose of influenza pandemic preparedness:

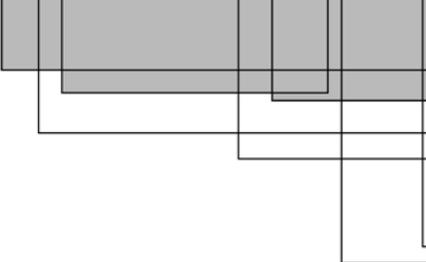
1. *Simulations by critical business unit*

Simulation exercises appropriate to each business unit should be developed without disrupting normal operations. Such simulations must, in addition to involving aspects of the scenarios used to develop the BCP, take into account the pandemic phase that they are intended to test. Simulations should be designed to fit the characteristics of the critical business unit in question so as to cover all the possibilities set out in the BCP.

2. *Simulations at the institutional or group level*

To avoid disrupting normal business operations, business units not designated as critical should not be involved in this testing. Only critical business units should be tested. With this kind of test, all critical operations can be tested at the same time under the same conditions. Results yield information about the co-ordination of actions and the effectiveness of the crisis committee's response.

²¹For more details, see principle 6 of the Joint Forum consultative document titled *High-Level Principles for Business Continuity*, August 2006, p. 17.



A report should be prepared after each test or simulation, regardless of scope or importance, to explain the test conditions. Possible solutions to problems or improvement requirements should be set forth for use in revising the BCP as the case may be. All reports from such testing should be submitted to senior management and the board of directors.

6 COMMUNICATION PROTOCOLS

Financial institutions should include communication protocols in their BCPs for timely dissemination of appropriate information to concerned parties in order to ensure effective crisis management and maintain public confidence.²²

These protocols should cover, at a minimum, the procedures for communicating and producing information as well as the target audience (e.g. e-mail, employee intranet, teleconferencing and meetings with internal parties, press releases, website postings and press conferences for the public and shareholders). The protocols should also cover the kinds of information to be released to internal and external parties and the appropriate times to do so.

Communication protocols play an essential role not only during the crisis period but also during the pandemic preparation period. Communication protocols are thus not simply business recovery tools, but actively support business continuity management throughout the various phases of the pandemic, as shown in Table 6.

TABLE 6 **Communication protocols
by phase of influenza pandemic**

PHASES OF THE PANDEMIC	COMMUNICATIONS ISSUES
Prevention phase (human infection with a new subtype, but no human-to-human transmission)	<ul style="list-style-type: none"> <input type="checkbox"/> Notify external parties that the institution has a BCP <input type="checkbox"/> Organize a staff awareness program <input type="checkbox"/> Prepare or adapt communications tools <input type="checkbox"/> Prepare communications plans for each pandemic phase
Preparatory phase (Limited and localized human-to-human transmission)	<ul style="list-style-type: none"> <input type="checkbox"/> Reassure employees, clients, and business partners (managing anxiety) <input type="checkbox"/> Respond to questions addressing common concerns <input type="checkbox"/> Anticipate questions that may be frequently asked
Intervention phase (Heightened and sustained transmission among the general population)	<ul style="list-style-type: none"> <input type="checkbox"/> Respond to employees' need for information <input type="checkbox"/> Respond to clients' need for information <input type="checkbox"/> Support business continuity management

²²For more details, see principle 4 of the *Joint Forum* consultative document titled *High-Level Principles for Business Continuity*, August 2006, p. 15.

TABLE 6 **Communication protocols by phase of influenza pandemic** (continued)

PHASES OF THE PANDEMIC	COMMUNICATIONS ISSUES
Intervention phase (Heightened and sustained transmission among the general population) (continued)	<ul style="list-style-type: none"> <li data-bbox="737 575 1386 659">□ Promote electronic communications and avoid communications channels that can spread the disease (hard copies of documents, meetings, get-togethers, etc.) <li data-bbox="737 674 1386 751">□ Contact regulatory authorities for information or if legal or regulatory non-compliance is expected due to influenza pandemic
Recovery phase	<ul style="list-style-type: none"> <li data-bbox="737 779 1078 806">□ Manage client dissatisfaction <li data-bbox="737 827 1370 884">□ Prepare for the next influenza wave, applying experience from previous phases <li data-bbox="737 898 1240 926">□ Notify employees of adjustments to the BCP

Source: *Autorité des marchés financiers*, 2007

7 AWARENESS and training programs

According to the Canada Labour Code,²³ it is the responsibility of employers to ensure the protection of their employees' health and safety at work. This means that the measures in the BCP must have employee protection as their primary objective. Employees themselves have the responsibility of taking all reasonable and necessary precautions to ensure their own health and safety and the health and safety of others. These concerns are even more important in the event of an influenza pandemic, given the physical and psychological effects of a pandemic on individuals. The development of workplace training and awareness programs is therefore of paramount importance.

Awareness programs must fulfill two functions:

- ❑ Informing staff of the importance of influenza pandemic preparedness and their ability to limit the spread of the pandemic by taking simple precautions. Staff should be provided with information on the nature of the disease, mode of transmission, symptoms, and the appropriate and available sanitary measures. It is recommended that institutions contact Health Canada–Québec Region²⁴ or engage the services of a medical practitioner or adviser in developing this part of their awareness program.
- ❑ Involving staff in the preparation of the business continuity plan and discussing leave provisions in the event that employees or members of their families fall ill, or that schools or daycare centres are closed.

Training programs serve other equally important purposes:

- ❑ Informing staff of measures in the BCP by providing each with a document that outlines the measures and provides necessary explanations and clarifications.
- ❑ Ensuring that staff master and understand the instructions in the BCP and are able to apply them.
- ❑ Supplying the training required in order to apply these instructions in the event of staff reassignments, for example.

23. *Canada Labour Code, Part II – Occupational Health and Safety* is available on-line at http://laws.justice.gc.ca/en/showdoc/cs/L-2/bo-ga:l_II/20070212.

24. Health Canada–Québec Region: http://www.hc-sc.gc.ca/ahc-asc/branch-dirgen/qc/index_e.html

8 CRISIS MANAGEMENT:

responsibility of senior management and board of directors

It would appear essential to designate a decision-making body for business continuity management, such as a crisis committee drawn from senior management. However, continuity management in a crisis period is the responsibility of the board of directors and the institution's senior management.²⁵ The roles, responsibilities, delegations of duties, and backup plans should be clearly defined and incorporated into business continuity management guidelines.

An institution's preparedness for the type of risk presented by an influenza pandemic demands a particular, heightened responsibility. Those in charge must be properly prepared to react effectively and appropriately to any unforeseen circumstances arising from the many unknowns that are characteristic of such a risk.

Generally speaking, the roles and responsibilities of the board of directors and senior management in managing business continuity concern the following:

- ❑ Ultimate responsibility for effective business continuity management and rapid recovery in the event of a crisis;
- ❑ Approval of the continuity strategy underpinning the BCP;
- ❑ Employee protection as a major concern in business continuity management;
- ❑ Continuity of operations outsourced to a supplier (Outsourcing of an operation does not relieve the institution of this responsibility);
- ❑ Creation and promotion of an organizational culture that places a high priority on continuity management;
- ❑ Involvement in adapting established communication protocols to unforeseen circumstances during the crisis period.

In managing business continuity, senior management needs to take into consideration the effects of a possible influenza pandemic on the institution's financial position. For senior management, the financial survival of the institution should take precedence over business continuity.

Again, senior management should report regularly to the board of directors on the institution's business continuity management (progress, test results, updates to the BCP, and so forth).

²⁵For more details, see principle 1 of the Joint Forum consultative document titled, August 2006, p. 12.

9 UPDATING

business continuity management program

Business continuity management needs to be a dynamic process that takes into account changes that impact the institution, its third parties and its environment. This is particularly important with respect to preparations for an influenza pandemic given that a pandemic can occur in the short or medium term and last from one to two years. During this period, the measures initially set up under a pandemic risk management program may become outdated. The effectiveness of a business continuity management program and BCP reliability may be impacted by the following:

- ❑ Changes to technological infrastructures;
- ❑ Process changes;
- ❑ Staff reassignments, recruitments and layoffs;
- ❑ Acquisitions of new physical infrastructures or relocation;
- ❑ Legal and regulatory amendments.

Preparations for an influenza pandemic are primarily based on the development of scenarios. In the event of a pandemic specifically, the underlying working assumptions are subject to major uncertainties. These assumptions may undergo changes as a result for instance of the latest statements from researchers and government authorities, advances in the development of vaccines and evolving stages in the pandemic.

In light of the impacts of these various changes, whether in terms of organization or working assumptions, on the effectiveness of a business continuity management program, it is important to adopt an updating process that is permanent, specific and clear (table 7).

TABLE 7 **Updating business continuity management program**

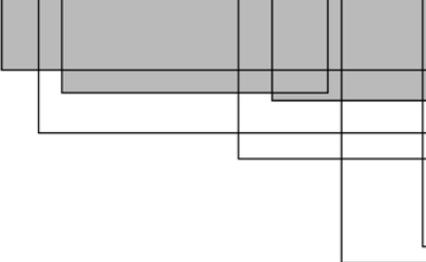
STAGES	CONSIDERATIONS
Identification of changes	<ul style="list-style-type: none"> <input type="checkbox"/> Tracking organizational changes; <input type="checkbox"/> Monitoring developments related to prognoses, data and the pandemic for impacts on working assumptions.
Assessment of changes	<ul style="list-style-type: none"> <input type="checkbox"/> Causes of changes; <input type="checkbox"/> Duration of changes; <input type="checkbox"/> Significance of changes (processes, employees, infrastructure and technology affected by changes); <input type="checkbox"/> Scope of changes.
Impact on business continuity management program	<ul style="list-style-type: none"> <input type="checkbox"/> Roles and involvement of units affected by changes to business continuity management program; <input type="checkbox"/> Assessment of impact of changes on effectiveness of business continuity management program.
Adjustments and updating	<ul style="list-style-type: none"> <input type="checkbox"/> Determining necessary adjustments and updating; <input type="checkbox"/> Preparations for implementing adjustments and updating; <input type="checkbox"/> Consolidation of adjustments and updating via revised BCP documentation; <input type="checkbox"/> Adjustments incorporated in updated training programs; <input type="checkbox"/> Detailed reporting to crisis committee on adjustments to and updating of business continuity management program.

CONCLUSION

Financial institutions under the supervision of the AMF are urged to consider the recommendations set out in this guide in their management of business continuity in preparation for an influenza pandemic. The AMF believes that other Québec financial sector participants can draw on these recommendations, which serve as the highest standards in the matter.

These recommendations can be summarized as follows:

- ❑ Influenza pandemic risk preparedness should be an integral part of a financial institution's risk management because such a risk can cause financial losses or damage to the reputation of an institution.
- ❑ An influenza pandemic is an event that can cause a disruption, slowdown, or interruption in an institution's operations. Therefore, a financial institution should ensure business continuity management.
- ❑ Business continuity management for financial institutions should be thoroughly structured to ensure an optimal level of preparedness. A key step is development and documentation of a business continuity plan (BCP). This also includes assessment of the effectiveness of the plan, staff training and awareness programs, and communications protocols.
- ❑ The BCP should set out measures to mitigate the pandemic's impacts on the financial institution while respecting the priorities outlined in the continuity strategy.
- ❑ Documentation of the BCP should be detailed, specifying what measures are to be taken and how the institution is expected to function during the crisis period.
- ❑ Assessment of BCP reliability should be given a high priority by financial institutions as part of their business continuity management.
- ❑ Communication protocols should be established in a manner that anticipates the financial institution's internal and external communications requirements during the various phases of an influenza pandemic.
- ❑ Senior management and the board of directors have a key role to play in ensuring effective crisis management. A crisis committee should be set up and should be prepared to respond effectively and appropriately to unforeseen circumstances that can arise during an influenza pandemic given the uncertainties surrounding the risk involved.

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- ❑ It is the responsibility of senior management to supervise business continuity management and to report regularly to the board of directors regarding progress toward influenza pandemic preparedness.
 - ❑ It is necessary to adopt a process for updating the business continuity management program that takes into account the impact of various changes, whether in terms of organization or working assumptions, on its effectiveness.

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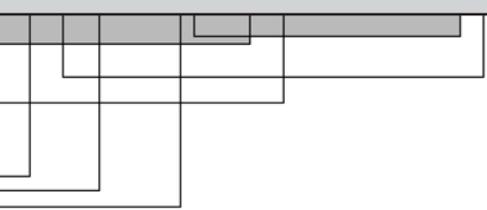
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<http://www.iaisweb.org/358coreprinciplesmethodologyoct03revised.pdf>

Joint Forum. *High-Level Principles for Business Continuity*, Consultative Document, August 2006.
<http://www.bis.org/publ/joint17.pdf>



INFORMATION SOURCES

International

World Health Organization
<http://www.who.int/en>

International Monetary Fund
<http://www.imf.org/>

Canada

Safe Canada
http://www.securitecanada.ca/pandemic/index_e.asp

Public Health Agency of Canada
<http://www.phac-aspc.gc.ca>

Government of Canada
<http://www.influenza.gc.ca>

Québec

Ministère de la Santé et des Services sociaux du Québec
http://www.msss.gouv.qc.ca/en/sujets/prob_sante/influenza.php

Ministère de la Sécurité publique
http://www.msp.gouv.qc.ca/Index_en.asp

Québec Influenza Pandemic Portal
<http://www.pandemiequebec.ca/en/news/news.aspx>

