



Foodservice Industry

Flu Pandemic Preparedness Planning

September 2006

Notice to Readers

This guide has been prepared by CRFA to assist foodservice operators prepare for a possible influenza pandemic. As work continues on this important subject, this document should be considered a "living" document subject to changes, deletions, additions and modifications without notice.

It is recommended that readers check for the latest information on CRFA's website at www.crfa.ca and on other websites listed on this document.

The information on pandemic preparedness planning is generic and must be customized to the needs of individual companies.

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Acknowledgements

Primary sources of information for this guide include:

1. World Health Organization
(http://www.who.int/csr/disease/avian_influenza/en/index.html)
2. Health Canada
(http://www.hc-sc.gc.ca/dc-ma/influenza/index_e.html)
3. Public Health Agency of Canada
(http://www.phac-aspc.gc.ca/influenza/pandemic_e.html)
4. Canadian Food Inspection Agency
(<http://www.inspection.gc.ca/english/anima/heasan/disemala/avflu/avflue.shtml>)
5. Public Safety and Emergency Preparedness Canada
(http://www.safecanada.ca/pandemic/index_e.asp)
6. Pandemic Influenza Preparedness Guidelines for Manitoba Businesses
(<http://www.gov.mb.ca/pandemic/index.html>)
7. Vancouver Coastal Health's "*Regional Pandemic Influenza Response Plan*"
(<http://www.vch.ca/public/communicable/pandemic.htm>)
8. The U.S. Centre for Disease Control and Prevention (CDC)
(<http://www.cdc.gov/> or <http://www.pandemicflu.gov/>)
9. Government of New Zealand, "*Influenza Pandemic Planning: Business Continuity Guide*" (<http://www.industry.gov.au/pandemicbusinesscontinuity/index.cfm>)
10. "*An Analysis of the Potential Impact of the H5N1 Avian Flu Virus on the Wholesale and Retail Grocery and Foodservice Industry*", by Alex Lee Inc., 2005

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What would happen if a flu pandemic arrived in your community?

WOULD YOU BE READY?

Planning for a flu pandemic is critical – particularly for foodservice operators, who would be among the most vulnerable to loss of customers and business closures.

CRFA has prepared a comprehensive guide to help foodservice operators develop plans to protect employee and customer health and to limit the negative impact of a pandemic on your business. Use this handy reference page to help you navigate the guide.

PLANNING CHECKLIST	WHERE TO FIND IT	DATE COMPLETED
Have you identified a pandemic co-ordinator or team and assigned roles and responsibilities for pandemic planning?	See <i>Governance</i> , page 17	
Have you undertaken a business impact analysis to determine if you should stay open or shut down temporarily during a pandemic?	See <i>Business Impact Analysis</i> , page 17	
Have you developed alternative strategies to deliver food to customers if they can't come to your restaurant?	See <i>Excess Capacity</i> , page 19	
Have you secured access to emergency financing to meet shortfalls during a pandemic?	See <i>Financial</i> , page 19	
Have you identified critical inputs (e.g. food supplies, hydro, fuel) you will need to keep your business running?	See <i>Products and Supplies</i> , page 20	
Have you made plans to ensure availability of essential supplies?	See <i>Products and Supplies</i> , page 20	

PLANNING CHECKLIST	WHERE TO FIND IT	DATE COMPLETED
Have you set up a system to monitor and track the health and safety of staff?	See <i>Employee Availability/Tracking</i> , page 21	
Have you established policies and programs to minimize illness among staff and to prevent the spread of the virus?	See <i>Employee Policies and Procedures</i> , page 22	
Have you made plans to ensure the availability of protective materials, supplies and service for employees?	See <i>Availability of Supplies and Services for Employees</i> , page 23	
Have you developed emergency communication mechanisms and plans to stay in touch with employees, suppliers, customers, health authorities, media, etc.?	See <i>Communications</i> , page 24	
Have you prepared and trained your staff so that they are ready to implement your pandemic plan?	See <i>Readiness Procedures</i> , page 25	
Have you tested your plan?	See <i>Validation</i> , page 26	

INTRODUCTION

While few Canadians alive today remember the last major pandemic (1918-1919), pandemics have occurred throughout history, and there is now the potential that the H5N1 avian influenza (flu) could mutate to humans and cause another flu pandemic.

No one knows whether avian flu will mutate into a human-transmissible strain and if it does, when or where, or how dangerous the mutated form will be to humans.

According to the World Health Organization (WHO), "It may be years before a pandemic hits the world, and it may ultimately be sparked by a virus other than H5N1." It should be noted, however, that the WHO has identified six phases of a pandemic, and the H5N1 virus can be described as Phase 5: *"Larger cluster(s) but human-to-human spread still localized, suggesting that the virus is becoming increasingly better adapted to humans but may not yet be fully transmissible (substantial pandemic risk)."*

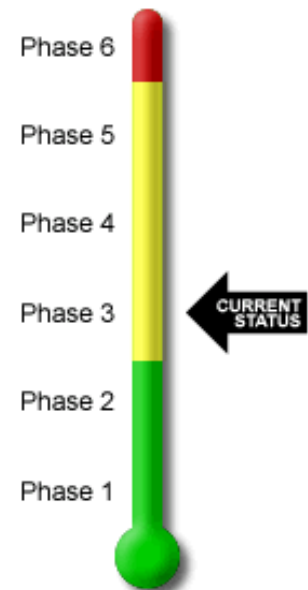
Whether or not the flu pandemic originates from avian flu, international scientists agree that a flu pandemic – the worldwide spread of a new strain of flu virus against which humans have little or no immunity – is inevitable.

Canada's experience with SARS in 2003 demonstrated how quickly and widely a flu virus can spread and provides some insight into the havoc a flu pandemic would create.

The Public Health Agency of Canada (PHAC), the Canadian Food Inspection Agency (CFIA) and the Department of Public Safety and Emergency Preparedness Canada (PSEPC) have been assigned the lead in pandemic influenza planning in Canada. Six government working groups have been created to address gaps in preparedness:

- i) International Issues
- ii) Federal Business Continuity and Human Resources
- iii) Public Health and Emergency Management
- iv) Communications
- v) Economic and Social Impact
- vi) Private Sector

The mandate of the private sector working group is to establish partnerships with industry and industry associations to ensure a common information base and standardized approach to planning and preparedness, such as sharing information on business continuity planning (BCP). The 10 critical infrastructure sectors participating on the private sector working group are: energy and utilities; information and communications technology; finance; healthcare; food; water; transportation; safety;



government; and manufacturing. CRFA is a member of the private sector working group.

The federal government, in conjunction with its provincial counterparts, has developed a plan that maps out how Canada will prepare for and respond to a pandemic influenza outbreak from a health perspective. The plan, which is updated regularly, provides information on the roles and responsibilities of those involved in a public health emergency – governments at all levels, public health officials and front-line health workers. The goal of the government plan is to minimize serious illness and death and ease any social or economic disruption that might be caused by a massive outbreak of the disease. While this plan is very health focused, the federal government, in conjunction with the provinces, is also preparing a comprehensive pandemic plan that will look at all other issues including critical infrastructure, coordination with government departments and outreach to the private sector.

Preparedness is the key to an effective response and mitigating the impacts of a pandemic. The Canadian Restaurant and Foodservices Association has developed this guide with the objective of minimizing illness among foodservice industry workers and customers and mitigating the business/economic disruption of a flu pandemic to the foodservice industry.

PANDEMIC INFLUENZA

Influenza A is the type of influenza virus involved in all known influenza pandemics. This is because Influenza A viruses can undergo major changes, producing a completely new strain. As most people have not built up any immunity to new strains of influenza, large numbers of people will become infected as the new virus spreads. For a new influenza to be capable of causing a pandemic, it must be able to:

- Infect people (not just mammals and birds)
- Cause illness in a high number of infected people
- Spread easily from person to person

While the characteristics of the virus that will cause the next flu pandemic are unknown, some general assumptions can be made based on past pandemics. The virus will be highly contagious and will spread very quickly among people, particularly in crowded situations.

The influenza virus enters the body through the nose or throat when someone:

- Inhales droplets produced by the coughing and sneezing of people infected
- Touches his/her mouth, eyes or nose after hand-to-hand contact with an infected person or touching surfaces or handling objects contaminated by an infected person

Once someone is infected with the influenza virus, it usually takes from one to three days to develop symptoms.

People with influenza can be contagious from the day before they develop symptoms to up to seven days afterwards (typically three to five days in healthy adults and up to seven days in children). This time frame may be longer in children and people with decreased immune systems.

Not everyone who comes in contact with the influenza virus will get sick, but they may still spread it to others.

Some people who get influenza also develop secondary bacterial infections, including pneumonia, which can result in prolonged illness or death.

During an influenza pandemic, much of the population will become infected, many will get sick and some will die. It is expected that there will be greater amounts of illness and death during a pandemic than during a regular flu season.

The Public Health Agency of Canada (PHAC) is predicting the arrival of the pandemic virus in Canada within three months of its appearance elsewhere, but it could be more rapid. Outbreaks will likely occur simultaneously in multiple locations, although different areas of the country may experience peak activity at different times. The first peak in illness is expected to happen two to four months after the arrival of the virus in Canada.

In a local community, a pandemic wave will generally last six to eight weeks, but this can vary. A pandemic may last 12 to 18 months and more than one wave may occur within a 12-month period.

For more information about pandemic influenza see the Public Health Agency of Canada Information Sheets at Appendix A or go to http://www.phac-aspc.gc.ca/influenza/media_e.html.

AVIAN INFLUENZA

Avian influenza is a viral infection that can infect birds. Many wild birds carry influenza viruses without becoming ill due to a natural resistance, but the disease is significant to domestic poultry. Signs of the disease range from a mild infection with no symptoms to a severe epidemic that kills up to 100% of infected birds.

Of all influenza viruses that circulate in birds, the H5N1 virus is of greatest concern for human health for two main reasons: the H5N1 virus has caused the greatest number of human cases of very severe disease and the greatest number of deaths; and there is a risk that the H5N1 virus – if given enough opportunities – will develop the characteristics it needs to start an influenza pandemic.

H5N1 has crossed the species barrier to infect humans on three occasions in recent years: Hong Kong in 1997 (18 cases with six deaths); Hong Kong in 2003 (two cases with one death); and the current outbreak that began in December 2003 and was first recognized in January 2004.

The virus has met all prerequisites for the start of a pandemic, save one: an ability to spread efficiently and in a sustained manner among humans. While H5N1 is currently the virus of primary concern, the possibility that other avian influenza viruses known to infect humans might cause a pandemic cannot be ruled out.

At present, H5N1 avian influenza remains largely a disease of birds. The species barrier is significant: the virus does not easily cross from birds to infect humans. Despite the infection of tens of millions of poultry over large geographical areas for more than two years, fewer than 200 human cases have been laboratory confirmed.

While the focus of this document is the threat of an influenza pandemic, foodservice operators are also concerned about the impacts of avian flu on the purchasing behavior of their customers. The following is a brief overview of the situation in Canada and the steps being taken by government and industry to protect the poultry and egg sectors and to ensure the food safety of these key foodservice commodities.

It is extremely unlikely that the avian influenza virus will present itself on chicken meat in Canada.

The Canadian chicken industry works closely with all partners, including the federal government, processors, retailers and foodservice to ensure all available measures of disease prevention are in place and scrupulously undertaken.

Chicken farmers use a rigorous set of bio-security measures that limit the opportunity for birds to have contact with other animals and humans. This, in turn, can be effective in preventing the introduction or possible spread of potential animal diseases.

Canada's policy on contagious animal diseases requires the immediate "stamping-out" of birds that pose a risk of spreading the disease. This will minimize any chances for the disease to enter the food chain.

The Canadian Food Inspection Agency (CFIA) is also working with industry to determine the best methods of surveillance for the disease.

Avian influenza has never been passed on to humans as the result of eating properly cooked chicken. According to the World Health Organization (WHO) cooked chicken does not transmit the avian flu virus. Avian influenza is not a food-borne disease.

As with all meats, Canadians should use proper cooking times and temperatures at all times by using proper handling techniques, and by checking internal temperatures with a meat thermometer. In the extremely unlikely event that the avian influenza (AI) virus was present on chicken meat it would be destroyed during the cooking process.

An internal temperature of 72°C (162°F) is sufficient to kill an AI virus, which is well below the normal internal temperature of fully cooked chicken (77-80°C or 170-176°F).

Experience has shown that the greatest risk to human health arises when the virus is given continuing opportunities for close human contact, exposure and infections to occur.

For more information on avian flu see the Canadian Food Inspection Agency (CFIA) information sheet at Appendix B or go to <http://www.inspection.gc.ca/english/anima/heasan/disemala/avflu/avflufse.shtml>.

For a sample poster for employees on proper procedures for cooking and handling poultry and eggs see Appendix C - 1 ([Tools for Pandemic Planning](#)).

FOODSERVICE INDUSTRY PREPAREDNESS AND RESPONSE PLANNING

All businesses will benefit from pandemic business continuity planning, but restaurant businesses in particular need to be prepared because they would be amongst the most vulnerable during a flu pandemic. Foodservice companies have a responsibility to their employees, customers and shareholders to be properly prepared in order to reduce the human cost and maintain business viability during and after a pandemic. Foodservice operators must be aware of the risks and factor them into their strategic planning.

The Public Health Agency of Canada has provided the following assumptions regarding the health impacts of a pandemic to be considered in preparedness and response planning:

"Foodservice businesses would be amongst the most vulnerable during a flu pandemic"

- The majority of the population (over 70%) will be infected over the course of the pandemic
- 15% - 35% will be clinically ill
 - up to 50% will seek outpatient care
 - assume that the majority of cases occur in the first wave (e.g. for a clinical attack rate of 35%, plan for 25% illness rate over six weeks in the first wave)
- 6% pneumonia
- 1% hospitalized (10% in severe pandemic)
- 0.6% fatality rate (2.2% in 1918)

If the severity of the pandemic is moderate but no vaccines or antivirals are available, the PHAC predicts a cost to the health care system of \$440 million to \$1.4 billion with:

- 11,000 to 58,000 deaths
- 34,000 to 138,000 hospitalizations
- 2 to 5 million outpatients

While the timing and impact of the next pandemic is unknown the PHAC indicates that a workplace may expect:

- Staff absenteeism occurring over a six- to eight-week pandemic wave in any given area
- 35% absenteeism during peak weeks of a severe pandemic (recently updated this assumption to 17-20% absenteeism)
- Possible regional differences in the timing of peak pandemic activity

- That an effective vaccine will take six months to produce
- That the effectiveness of antivirals such as Tamiflu may be limited

Hits on the economy won't likely come from the illness itself but will arise as a result of worker and customer efforts to avoid infection by minimizing face-to-face interactions, according to a World Bank economist.¹

While most businesses must develop plans that will allow them to continue to operate with huge employee shortages, restaurants must focus on the likelihood of huge *customer* shortages. Some restaurateurs will see their business evaporate overnight. Foodservice operators who are the most creative in developing plans that allow them to get food to consumers or alternatively allow them to access emergency financing and insurance, will be best positioned to weather a pandemic.

Public health officials will advise the public to avoid crowded situations and stay at home as much as possible. They will not hesitate to impose quarantines, including requiring people who may have been exposed to the virus to stay home. They may also mandate closures of public places and events. Regional Medical

"While most businesses must develop plans that will allow them to continue to operate with huge employee shortages, restaurants must focus on the likelihood of huge customer shortages"

Officers of Health will have the authority to close facilities and events in the interest of public safety. This could include transportation, childcare centres and schools, retail settings, workplaces, places of worship, community events, sporting events, concerts, parades, etc.

Foodservice industry plans should take into consideration shifts in consumer demand. While demand for take-out and delivery service will likely increase dramatically, some full service restaurants will have difficulty remaining open. Foodservice industry plans must consider financing and insurance to stay afloat during restaurant shut down and must also consider employee income support needs, food supply disruptions and product and fuel shortages.

PREDICTING THE ECONOMIC IMPACT ON CANADA'S FOODSERVICE INDUSTRY

Federal Finance Department officials predict that if a flu pandemic spreads to Canada, it could carve as much as \$14 billion out of the country's economy and there would be a 1.2% cut to GDP, slicing growth in half.²

Lost productivity from a pandemic is estimated to cost between \$5 billion and \$38 billion.

An aggregate analysis by federal finance department officials of the economic impact of a pandemic based on an analysis of past pandemics, including the severe "Spanish flu" in 1918, and the less severe "Asian flu" in 1957 and the "Hong Kong flu" in 1968, as well as SARS in 2003, indicates little long-term economic impact. According to their analysis, advanced market economies, such as Canada's, are resilient to many natural shocks. People adapt to the shock and shift spending across sectors and across time allowing the economy as a whole to recover quickly. While most sectors rebound rapidly, others, such as tourism, suffer more lasting effects. Finance officials report that SARS had no impact on Canada-wide foodservice and drinking place output; however, it is recognized that certain sectors of the foodservice industry, in certain regions of the country, were significantly impacted.

The Congressional Budget Office (CBO)³ in the United States recently attempted to estimate the impact of a pandemic on demand in different industries in the U.S. The CBO estimates a decline in demand of 80% in the arts/entertainment sector, including foodservice, over a three-month period in the case of a severe pandemic (i.e. a particularly virulent strain of flu similar to the 1918 Spanish flu) and a decline in demand of 20% in the case of a mild pandemic (i.e. resembling the outbreaks of 1957 and 1968). In contrast the CBO estimates declines of 10% for most other sectors in their severe scenario and 3% in their mild scenario.

The tourism industry was the hardest hit by the 2003 SARS outbreak in Toronto. The industry lost more than \$500 million and 28,000 jobs.⁴ At least four major Toronto conventions were cancelled and restaurant visits declined sharply. The effects on tourism and travel lingered long beyond the last SARS case, despite a \$10-million federal government mass-media campaign to promote Toronto, Ontario and Canadian tourism in the U.S. and Europe. The number of non-residents entering Canada fell 13.4% in 2003 from a year earlier, and was down nearly 20% during the peak SARS period. The number of visitors has never recovered from that episode, with non-resident travelers actually dropping a further 0.4% in 2004.⁵ However, it is acknowledged that the decline can also be attributed to the start of the Iraq war, and a strengthening of the Canadian dollar.

While Asian restaurants and restaurants dependent on tourism suffered the worst declines during SARS, an analysis of the SARS outbreak provides insight into the impact on different sectors of the foodservice industry. Restaurants and bars posted a national decline of 0.3% in April 2003 (compared to April 2002) when the first wave of SARS occurred in Toronto, compared with a 0.7% decline in September 2001, when the 9/11 terror attacks occurred. Ontario total restaurant receipts declined 1.6% in April 2003, with losses at full-service restaurants (-3.9%), food service contractors, including those serving airlines (-9.2%), social and mobile caterers (-4.5%) and drinking places (-2.6%). In contrast, limited-service restaurant receipts grew modestly (0.5%).⁶

The restaurant industry was affected by reductions in travel to Toronto and by Toronto residents avoiding public places. However, some substitutions occurred, as companies

offering take-out and delivery services were busier than usual, with consumers trying to stay away from crowds to avoid the possibility of contracting SARS. Retail sales at grocery stores were up 1.4% in April 2003, partially reflecting Torontonians' aversion to public places, including restaurants.⁷

It is possible to drill down further using information provided by Moneris Solutions, a processor of merchant debt and credit card transactions. Retail transaction volumes in the city fell 4.4% in April 2003 compared with the previous month, while grocery stores saw a spike in volume. Transaction volumes at hotels slipped by 16.1% and restaurants by 10% in the Greater Toronto Area. However, in eastern Toronto and Markham, where there are large Asian populations, volumes plunged by 25.9% and 16.3% respectively. In contrast, grocery store transaction volumes jumped 9.9% and increased by 44% in Markham alone.⁸

Employee absenteeism, supply chain problems and loss of customers will have serious financial implications for foodservice businesses during a pandemic. Operators should anticipate that their productivity and revenue will decrease dramatically while operating costs remain constant or even increase during a pandemic. For small businesses it will not take long for financial reserves to drop and for credit to become less available. Foodservice operators may also lose market share to competitors who are better prepared and can remain operational. It may be difficult to get these customers back when the crisis is over.

BUSINESS CONTINUITY PLANNING

This section of this industry guide to pandemic planning provides information and ideas to be used by individual restaurant companies to develop business continuity plans to mitigate the potential effects of a pandemic on their company, customers, and employees.

In recent years, hurricanes on the East Coast, fires in western Canada, the ice storm in central Canada, SARS, and 9/11 have all reinforced the importance of contingency planning and business continuity plans. While most large companies have well-developed plans that take into account the impact of highly infectious diseases, many small and mid-size companies do not.

The process of creating and maintaining a business continuity plan will help ensure restaurants have the resources and information they need to deal with a pandemic.

Business continuity planning must be undertaken on a firm-by-firm basis. The degree of risk and the scope of responses will vary by concept, by market and by location.

Business continuity planning usually includes the following five components:

- Business continuity planning governance

- Business impact analysis
- Plans, measures and arrangements for business continuity
- Readiness procedures
- Validation (exercises, maintenance and auditing)

Governance

Governance defines the structure and key roles within the organization in the event of a pandemic – who makes strategic decisions and who communicates to whom within and outside your organization.

It begins with the identification of a pandemic coordinator and/or team with defined roles and responsibilities for preparedness and response planning. This team must have senior management commitment and support. This may require doing some groundwork to educate management about the risks of a pandemic and the costs and benefits associated with preparing for one. The benefits of pandemic preparedness and general business continuity planning should be highlighted. This information can be obtained from this document or the many Internet resources dedicated to this topic. Once management commitment is gained, the pandemic preparedness program should be communicated as an organizational program and priority.

The co-ordinator/team must oversee the implementation of all actions that need to be undertaken in preparation for a pandemic and have ownership of the plan and its maintenance. This involves:

- Determining planning objectives
- Assigning responsibility for tasks needed to coordinate the development of the plan
- Creating a planning schedule including deadlines for completion of tasks, reporting and getting approval from management

The team should also develop an emergency chain of command structure so that leadership is well understood, no matter who becomes ill during the pandemic.

Business Impact Analysis

An economic business analysis is a key component of a business continuity plan. It involves identifying the company's critical services, ranking them and identifying internal and external impacts of disruption. The steps are:

- Undertake a company-wide analysis of “essential” and “non-essential” functions during a pandemic.
- Identify critical functions and services, which would create restaurant vulnerabilities if disrupted.

- Determine minimum acceptable service delivery levels and the maximum period of time that service can be down before severe damage to the organization results.
- Examine employee-related costs of a pandemic such as paid sick leave, meeting special needs of employees.
- Identify the core people required to keep the essential part of the business running.
- Identify the core skills required to keep the business running.
- Identify threshold/tolerance of the loss of customers/sales.
- Identify additional expenses that could be incurred in the case of a pandemic, (i.e. inventory losses, breaches of contracts).
- Factor in possible intangible losses that would result from a pandemic such as the cost of the loss of consumer confidence or investor confidence.
- Use relevant information collected on the potential loss of revenue, time of recovery and severity of impact a disruption would cause to determine minimum service levels and maximum allowable downtimes.
- Identify threshold/tolerance of the loss of staff.
- Identify threshold/tolerance for supply disruptions. Product shortages may occur because of disruptions in transportation systems, border closures or inability of suppliers to meet demands because of their own staff shortages.
- Identify the critical vendors and utilities that could impact ability to function.
- Identify other internal dependencies such as equipment, computer applications, data, vehicles, and support services such as finance, human resources, security, and information technology.
- Identify other external dependencies such as facility management, utilities, communications, transportation, credit card companies, insurance providers, government agencies, legal service, health and safety services.
- Determine potential decrease in demand for your products/services during a pandemic and the impact on your company financials using multiple possible scenarios, (e.g. effect of restriction on mass gatherings).

Plans for Business Continuity

Plans need to be developed to mitigate the threats and risks identified in the business impact analysis, with the goal of ensuring critical services and products are delivered at minimum service levels within tolerable down times.

Plans should determine trigger points for activating different stages of the company's response plan. The government will widely publicize any changes in pandemic alert status, which may signify the need to activate the business continuity plan. See Appendix D with World Health Organization pandemic phases, sample scenarios with general industry actions at each alert period.

◆ Operations

Excess Capacity

The challenge for foodservice operators during a pandemic will be to reinvent the business so that customers' need for food outside of a public setting can be met. Creative solutions must be developed in advance to keep businesses operational during a pandemic.

- Develop plan to introduce/rapidly scale up take out and home delivery service.
- Consider developing an Internet order system for delivery or customer pick-up.
- Develop a contact and meal distribution system for regular customers.
- Research the potential and develop a plan to use excess capacity to serve the increased demand for health care meals. Consider the issues that will result in the preparation and distribution of meals.
- Develop a relationship with organizations such as Red Cross and determine how restaurants may be able to help them carry out their emergency duties.
- Identify partners who can provide home delivery options/services.
- Develop relationship with taxi cab service.

Financial

A temporary but dramatic drop in sales is likely for foodservice companies able to remain operational during a pandemic. The companies best able to survive the crisis will be those with plans in place to address financial shortfalls.

- Develop a plan to maintain or increase borrowing capacity in order to survive the crisis.
- Negotiate a large enough line of credit – well in advance.
- Discuss business interruption service with your insurance broker.
- Develop alternative plans to access emergency funding during pandemic.
- Develop list of cost-cutting measures to be activated at various stages of pandemic.
- Develop a strategy to deal with potential disruptions to the credit/debit card networks.
- Consider potential lawsuits that could result from emergency actions and implement reasonable steps to protect the company from litigation.

Products and Supplies

Transport Canada officials estimate that in the event of a pandemic transportation systems will be down by 30% for six to eight weeks. This will be due to absenteeism, mandated or self-imposed travel restrictions, fuel shortages and other vulnerable links in the supply chain. It is inevitable that there will be product shortages. Advance planning will help operators ensure that essential supplies are available.

- Identify priority products to sustain business.
- Create emergency purchase orders for "core" items that can be executed when appropriate trigger point is invoked.
- To the extent possible, negotiate with vendors to obtain appropriate commitments.
- Develop relaxed product substitution rules such that product continues to flow.
- Develop emergency check-in and receiving procedures to minimize human contact between drivers and receiving personnel.
- Develop emergency delivery procedures to minimize human contact.
- Develop other back up strategies to meet product shortages such as restricting restaurant hours or consolidating restaurant operations.

◆ Human Resources

Employers have responsibility for the health and safety of employees and to ensure those employees' actions or inactions do not cause harm to others. Even if a restaurant can weather the economic impact of a pandemic, employers must also consider the level of risk to employees and their customers of keeping their operation open.

Continuity planning should consider the restaurants' obligations under provincial occupational health and safety regulations. If a restaurant stays open during a pandemic, provincial employment standards legislation will continue to apply.

Employee Availability/Tracking

Employee response to a pandemic will be inconsistent and it is anticipated there will be shortages in some positions and surpluses in others. It is important to forecast and allow for employee absences during a pandemic due to factors such as personal illness, family member illness, community containment measures and quarantines, school and/or business closures, public transportation closures and even employees abandoning their jobs as they perceive the risk as being greater than the compensation.

- Design and develop an employee database that will be needed during the pandemic to track key information about employees and their families.
- Set up a system to monitor and track staff who:
 - Are currently ill
 - Are suspected to be ill
 - Are unexpectedly absent from work
 - Have survived and are immune
 - Have lost family members

See Appendix C - 2 and 3 for sample contact lists (Tools for Pandemic Planning).

- Identify employees with special needs and incorporate the requirements of such persons into your preparedness plan.
- Set up a process to facilitate/encourage the return of staff once they are better or at the end of a quarantine period.

Employee Surplus

- Develop an emergency plan for reallocating employees to other functions if possible.

- In preparation for a shift in resources, consider appropriate cross-training.
- Develop a plan for dealing with excess employees and hourly workers who will need special help when laid off.

Employee Policies and Procedures

Some human resource policies and procedures may become obsolete during a pandemic. An emergency set of employee procedures and policies should be developed in advance of a pandemic.

- Establish policies to minimize illness among staff members and to prevent influenza spread at the worksite, e.g. promoting respiratory hygiene/ cough etiquette, prompt exclusion of people with influenza symptoms, guidelines to modify the frequency and type of face-to-face contacts (e.g. hand-shaking) among employees and between employees and customers.

See Appendix C - 4 to 10 (Tools for Pandemic Planning) for documents with information on influenza protection measures which include:

- Table with the differences between influenza and a common cold
 - Sample personal hygiene notice
 - Handwashing procedures and notice
 - Tips for staying healthy during a pandemic
 - Sample influenza notification
- Establish policies for employees who have been exposed to pandemic influenza, are suspected to be ill, or become ill at the worksite (e.g. infection control response, immediate mandatory sick leave).

See Appendix C - 11 to 13 (Tools for Pandemic Planning) for sample procedures for screening and managing sick employees, sample notification for suspected case at work, and sample contact list for people who have been in close proximity to an infected person.

- Set up a process for ensuring that ill employees have completed any required quarantine period and are *healthy* before allowing them to return to work.
- Establish policies for restricting travel to affected geographic areas, evacuating employees working in or near an affected area when an outbreak begins, and guidance for employees returning from affected areas.
- Establish policies for employee compensation and sick-leave absences unique to a pandemic including time off policy, emergency employee assistance policy,

death in family policy, short-term disability policy and policies on when a previously ill person is no longer infectious and can return to work after illness.

- Develop plans specific to drivers and policies to deal with drivers who refuse routes into certain areas.
- Develop a plan to provide appropriate additional security for employees. For example drivers and store personnel could be placed at risk during the pandemic.

Availability of Supplies and Services for Employees

- Determine how many protective materials to stockpile and who should get them.
- Develop a plan to ensure sufficient and accessible infection control supplies, (i.e. masks, protective gloves, hand-hygiene products, cleaning supplies, tissues and receptacles for their disposal).
- Evaluate employee access to and availability of mental health and social services during a pandemic, including corporate, community and faith-based resources, and improve services as needed.
- Ensure availability of medical consultation and advice for emergency response.
- Work with health plan administrators to develop emergency health care procedures.
- Determine accessibility of flu shot clinics. Encourage and track annual influenza vaccination for employees.

Employee Communication and Training

Communication is a key component of a pandemic plan and management's pandemic plan must be communicated clearly to staff. Communication involves anticipating employee fear and anxiety, rumours and misinformation and planning accordingly. It also involves training employees in appropriate response measures.

- Familiarize employees with the pandemic issue well in advance and provide appropriate messaging.
- Develop and disseminate programs and materials covering pandemic fundamentals (e.g. signs and symptoms of influenza, modes of transmission), personal and family protection and response strategies (e.g. hand hygiene, coughing/sneezing etiquette).

See Appendix A for Public Health Agency of Canada information sheets entitled:

- What you need to know about pandemic influenza
 - Preventing the spread of influenza during a pandemic
 - You can play a role in preventing the spread of a pandemic
- Conduct staff training on preparedness initiatives and response plans (practise applicable response measures, e.g. proper fit and wearing of protective equipment).
 - Communicate to employees that in a pandemic situation, there is the potential for shifting of duties and that there is the expectation that everyone will pull together through the crisis.
 - Employers should also discuss with their staff the possibility of the business closing during the pandemic and the mechanism that will be used to communicate this information. Advance notice of likely impacts will also assist employees in making arrangements in advance.
 - In activating your plan, provide clear, timely and pro-active communications to staff, including how your organization is handling the situation.
 - Develop a plan for communicating with employees both at work and at home including information for care of ill employees and family members.
 - Consider developing an emergency call centre that employees can contact for information and special needs.
 - Ensure that communications are culturally and linguistically appropriate.

◆ **Communications**

Consumer behaviour during a pandemic will be influenced by consumer perception of risk and consumer knowledge of how to protect themselves and their families from risk. Consistent messaging from multiple sources, including the private sector, and dialogue on how to deal with the crisis will help to instill consumer trust and bring people together to deal with the challenges.

- Establish an emergency communications plan and revise periodically. The plan should include the identification of key contacts (with back ups), chain of communications (including suppliers and customers), and process for tracking and communicating business and employee status.
- Develop emergency communications mechanisms that will be needed during a pandemic.

- Consider the use of e-mail, intranet, dedicated website, hotlines, conference calling, instant messaging, etc. to simplify the task of communicating pandemic status and actions to employees, vendors, suppliers and customers inside and outside the worksite in a consistent and timely way.
- With any noticeable action step, consider the need to educate consumers on why the change is appropriate.
- During pandemic establish a daily process to stay abreast of most recent developments with trusted sources such as CRFA.
- Identify the key contacts/agencies in local government in each municipality who make decisions regarding schools, hospitals, etc.
- Find up-to-date, reliable pandemic information from community public health, emergency management and other sources, and make sustainable links.
- Prepare a media point person.
- Develop a procedure to respond to media calls. Review the procedure with all employees.
- Communicate to non-employees (vendors, etc.) who may be approached by the media that they must not speak on behalf of your company.
- Prepare to take a proactive role in providing the media with good information about the food supply and food safety.
- Promote the development of an industry-wide approach to pandemic (take steps to ensure that any protective steps implemented aren't perceived by consumers to reflect dangers in that particular establishment because competitors are slower to respond to the risk).

Readiness Procedures

- Have the entire plan reviewed by the planning team and approved by management.
- Once approved, print and distribute the plan to all key personnel identified in the plan and their backups.
- Brief staff on the contents of the plan and ensure employees are aware of their individual responsibilities.

- Train employees with direct responsibility for tasks they will be required to perform during a pandemic.
- Regularly review plan to maintain accuracy, relevance and effectiveness.
- Collaborate with insurers, health plans, and major healthcare facilities to share your pandemic plans and understand their capabilities and plans.
- Collaborate with federal provincial, and local public health agencies and/or emergency responders to participate in their planning processes, share your pandemic plans, and understand their capabilities and plans.
- Share best practices with other businesses in your communities, and associations, to improve community response efforts.

Validation

- Conduct education sessions to raise awareness about the risk and help people to prepare for a pandemic.
- Develop or access exercises to verify and validate plan. Desk top and training exercises are powerful tools that can be used to practise, educate, motivate and evaluate plans, procedures and technology. Information on planning and conducting an exercise can be obtained from provincial and federal emergency planning departments.
- Assign responsibility for regular meetings to update information to ensure that the plan remains relevant, accurate and useful.

Recovery Phase

- Develop a plan that addresses how the company recovers after the crisis period is over. Recovery plan should address:
 - Psychological stress, low morale and temporary loss of productivity related to the deaths of co-workers, family and friends.
 - Loss of institutional knowledge due to possible death of some employees.
 - The need to recruit and train replacement workers and to reassign workers.

- Communication with customers and suppliers to let them know about the status of your business and when they can expect services to be completely restored.
- Compiling necessary information to take part in any financial recovery programs.

APPENDIX A



Public Health
Agency of Canada

Agence de santé
publique du Canada

INFORMATION

FEBRUARY 2006

WHAT YOU NEED TO KNOW ABOUT PANDEMIC INFLUENZA

Considerable attention has been given recently to the prospect of an influenza pandemic sweeping the globe and causing serious illness and death. The following questions and answers will help give you a better understanding of what an influenza pandemic is and how Canada is preparing to respond to an outbreak.

What is influenza (“the flu”)?

Human influenza, or the flu, is a respiratory infection caused by the influenza virus. There are two types of influenza virus that cause outbreaks each year: influenza A and B.

How is influenza spread?

The influenza virus spreads through droplets that have been coughed or sneezed into the air by someone who has the flu. You can get the flu by breathing in these droplets through your nose or mouth, or by the droplets landing directly on your eyes. You can also contract the virus by shaking hands with infected people or by touching contaminated surfaces then transferring the viruses to your own eyes, nose or mouth.

What are the symptoms of influenza?

Influenza typically starts with a headache, chills and cough, followed by a fever, loss of appetite, muscle aches and fatigue, a running nose, sneezing, watery eyes and a throat irritation. Nausea, vomiting and diarrhoea may also occur, especially in children.

What is the best way to avoid getting influenza?

Immunization provides the best protection for many diseases and illnesses, including influenza. Each year, millions of Canadians receive the influenza vaccine, or “flu shot,” to avoid contracting influenza from different virus strains that routinely circulate in the community.

You can reduce the risk of catching or spreading influenza by practicing basic hygiene:

- Wash your hands regularly with warm, soapy water for at least 20 seconds, especially before and after eating, after going to the bathroom, after coughing and sneezing and after touching surfaces that may have been contaminated.
- Cough and sneeze into a tissue or your sleeve to avoid spreading the virus through infected droplets or contaminating your hands with the virus.
- Throw away used tissues promptly.
- Frequently clean and then disinfect household surfaces such as door handles and light switches that may have been contaminated.
- Encourage all members of your household, especially children, to follow these practices.
- If you do get the flu, stay at home and rest until you are feeling better.

What is a pandemic?

A pandemic is the worldwide spread of a specific disease to which people have little or no immunity.

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Canada

What is an influenza pandemic?

An influenza pandemic can occur when a radical change takes place in an influenza A virus, causing the emergence of a new strain against which people have little or no immunity. If this new subtype, or strain, has the ability to spread easily from person to person, many people around the world could become ill and possibly die. This is referred to as an influenza pandemic.

What causes an influenza pandemic to occur?

One way a new strain can emerge is if a person who is sick with a human influenza virus also becomes infected with an avian influenza virus and the two viruses re-assort, or "mix." This means that the avian influenza virus acquires some of the human influenza genes, potentially creating a new subtype of influenza A virus against which people have little or no immunity. Another way a change can occur is for an avian influenza virus to undergo a number of changes or mutations resulting in the ability of the new strain to infect people and spread among humans.

What is avian influenza ("bird flu")?

Wild waterfowl are natural carriers of influenza A viruses. Usually these avian influenza ("bird flu") viruses carried by wild birds cause them little or no harm. Other birds such as domestic poultry and animals, including pigs, can also contract and transmit influenza viruses.

What is the bird flu that has caused illness in domestic birds and some humans in Asia?

Currently, an avian influenza H5N1 strain is circulating in Southeast Asia and parts of Europe, infecting many poultry populations and some humans. This strain of influenza is "highly pathogenic," meaning it is highly deadly to poultry. This H5N1 influenza virus has infected a limited number of people, but there is no evidence it is spread from person to person.

What do "H" and "N" refer to when identifying a virus?

Influenza viruses are classified by the characteristics of two proteins: hemagglutinin, or "H" protein, and neuraminidase, or "N" protein. There are 16 H subtypes and 9 N subtypes that can exist in any combination. Some combinations are more pathogenic (deadly) to birds but this does not mean they are more likely to cause disease in humans.

Who decides whether an influenza outbreak is a pandemic?

The declaration of a pandemic influenza outbreak would be made by the World Health Organization (WHO).

How would we know if a pandemic has started?

One scenario would be for an outbreak of respiratory illness to be detected in one region of the world, followed rapidly by clusters in other regions. Laboratory investigation would reveal that the cause of infection is a new influenza strain against which humans have little or no protection.

What is the difference between a vaccine and an antiviral?

Vaccines are used to protect Canadians from many serious illnesses, including influenza. A vaccine provides immunity by stimulating the body to produce antibodies to fight off different strains of a virus. The antibodies are effective for four to six months. When you are exposed to the influenza virus strain, the antibodies will help either to prevent the infection or to reduce the severity of the

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flu. A vaccine is usually administered by injection (e.g., the annual flu shot) and includes a form of the virus that is dead or weakened – so it is harmless to people.

Unlike vaccines, antivirals do not prevent illness by providing immunity. An antiviral is a medicine taken by mouth or by inhalation that destroys a virus or interferes with its ability to grow and reproduce. It can be given to patients when they are sick to reduce symptoms, to shorten the length of illness and to minimize serious complications.

Is there a vaccine available for protection against pandemic influenza?

A vaccine for protection from a pandemic strain of influenza cannot be produced until the new strain has emerged and been identified. It will then take about six months to develop and produce the vaccine. Therefore, a vaccine will not be available at the start of a pandemic and may be in short supply during the initial stages of the outbreak.

Canada has a 10-year contract with a manufacturing company for the production of a pandemic vaccine, should one be required. Although the vaccine itself cannot be produced until the new strain emerges, having a contract with a domestic supplier allows Canada to build the infrastructure and systems to produce enough pandemic vaccine for all Canadians in the event of a pandemic.

Will the annual flu shot provide protection from pandemic influenza?

No. The annual influenza vaccine includes the influenza strains expected to be in circulation during that year's flu season. While annual immunization is the most effective way to avoid getting seasonal flu, it will not provide protection from a new influenza strain that emerges to create a pandemic.

During a pandemic influenza outbreak, how many Canadians would become ill or die from the disease?

It is estimated that, without vaccines and antivirals, between 15 and 35 percent of the population – representing between 4.5 million and 10.5 million Canadians – could become ill. In addition, it is estimated that in Canada, between 2 million and 5 million people would require medical care, between 34,000 and 138,000 people could require hospitalization and between 11,000 and 58,000 deaths could occur.

Does Canada have a plan to protect Canadians in the event of a pandemic influenza outbreak?

The Canadian Pandemic Influenza Plan, first published in February 2004, was developed by federal, provincial and territorial governments with input from more than 200 experts. The plan maps out how we will prepare for and respond to a pandemic influenza outbreak. It includes an emergency response plan as well as guidelines and checklists designed to assist all jurisdictions in their emergency planning. The plan is primarily focused on health sector preparedness and response. It is adapted and updated as the situation evolves.

**To get more information, you may visit the following Web site:
www.pandemicinfluenza.gc.ca**



PREVENTING THE SPREAD OF INFLUENZA DURING A PANDEMIC

Scientists agree that an influenza (flu) pandemic – the worldwide spread of a new strain of influenza virus against which humans have little or no immunity – is inevitable. When such a new strain emerges, implementing general public health measures to control its spread will play an important role in reducing serious illness and death and in minimizing disruption in our communities.

How people can protect themselves

The influenza virus spreads through droplets that have been coughed or sneezed into the air by someone who has the flu. You can get the flu by breathing in these droplets through your nose or mouth, or by the droplets landing directly on your eyes. You can also contract the virus by shaking hands with infected people or by touching contaminated surfaces then transferring the virus to your own eyes, nose or mouth.

By following good hand and respiratory hygiene practices, you can reduce the risk of catching or spreading influenza both during the regular flu season and in a pandemic:

- Wash your hands regularly with warm, soapy water for at least 20 seconds, especially before and after eating, after going to the bathroom, after coughing and sneezing and after touching surfaces that may have been contaminated.
- Cough and sneeze into a tissue or your sleeve to avoid spreading the virus through infected droplets or contaminating your hands with the virus.
- Throw away used tissues promptly.
- Frequently clean and then disinfect household surfaces such as door handles and light switches that may have been contaminated.
- Encourage all members of your household, especially children, to follow these practices.
- If you do get the flu, stay at home and rest until you are feeling better.

Community-based measures

Health professionals, including doctors and nurses, are educating Canadians on the importance of these good hygiene practices both before and during an influenza pandemic.

Immunization (vaccination) will be one of the most effective methods of protecting individuals from the pandemic influenza virus strain. A vaccine provides immunity by stimulating the body to produce antibodies to fight off different virus strains. However, a vaccine for pandemic influenza cannot be produced until the pandemic strain emerges. Once this strain has emerged and been identified, it will take about six months to develop and produce a vaccine. Therefore, a vaccine will not be available at the start of a pandemic and may be in short supply during the initial stages of the outbreak.

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Public health authorities may also consider implementing additional measures in their communities to control the spread of influenza. For example, in certain situations they might:

- recommend that people with symptoms of illness stay at home, away from public events and locations (i.e. self-isolate themselves);
- close schools and daycare centres; and
- restrict indoor public gatherings.

The Canadian Pandemic Influenza Plan is a document developed by federal, provincial and territorial governments that maps out how Canada will prepare for and respond to a pandemic influenza outbreak. It includes guidelines that public health authorities can use in their planning strategies to control the spread of an influenza pandemic in their communities. These guidelines will need to be updated and revised as new research on the effectiveness and feasibility of various public health measures becomes available.

**For more information,
visit www.pandemicinfluenza.gc.ca**



INFORMATION

FEBRUARY 2006

YOU CAN PLAY A ROLE IN PREVENTING THE SPREAD OF PANDEMIC INFLUENZA

At one time or another, you may have heard your mother say “cover your mouth when you cough” and “remember to wash your hands.”

Well, as some would say, “Mom is always right.” And her sage words may not only keep you healthy during flu season each year, they can also help stop the spread of an influenza pandemic.

Human influenza, or the flu, is a respiratory infection caused by the influenza virus. This virus spreads through droplets that have been coughed or sneezed into the air by someone who has the flu. Different strains of this virus regularly circulate in our communities, making people sick. However, you may be able to avoid getting sick if you have antibodies to fight off the virus strain you’re exposed to. Influenza immunization, or the “flu shot,” is the best way to avoid getting sick because it stimulates the body to produce antibodies against the influenza virus.

From time to time, an influenza strain changes into a new strain. We may have little or no immunity to the new strain. If this new strain of influenza virus has the ability to spread easily from person to person, many people around the world could become ill and possibly die. This is referred to as an influenza pandemic.

At this time, there is no influenza pandemic anywhere in the world. But knowing how to protect yourself from getting influenza is important both before and during a pandemic. By following good hand and respiratory hygiene practices, you can reduce the risk of catching or spreading influenza both during the regular flu season and in a pandemic.

- Wash your hands regularly with warm, soapy water for at least 20 seconds, especially before and after eating, after going to the bathroom, after coughing and sneezing, and after touching surfaces that may have been contaminated.
- Sneeze and cough into a tissue or your sleeve to avoid spreading the virus through air droplets or contaminating your hands with the virus.
- Throw away used tissues promptly.
- Frequently clean and disinfect household surfaces such as door knobs, light switches and countertops that may have been contaminated.
- Encourage all members of your household, especially children, to follow these practices.
- If you do get the flu, stay at home and rest until you are feeling better.

Sounds pretty simple, right? Because it is. As Canada’s Chief Public Health Officer, Dr. David Butler-Jones, has stated: “Reinforcing basic hand-washing is one of the best ways to prevent the spread of disease.”

By remembering these simple hygiene practices, you can reduce your chances of getting the virus, giving the virus and contributing to the spread of the virus. And remember, even people who are not showing symptoms can still spread the virus.

APPENDIX B



Canadian Food
Inspection Agency

Agence canadienne
d'inspection des aliments

Avian Influenza

What is avian influenza?

Avian influenza (AI) is caused by the influenza virus Type "A", which can affect several species of food producing birds (chickens, turkeys, quails, guinea fowl, etc.), as well as pet birds and wild birds.

Avian influenza viruses can be classified into two categories: low pathogenic (LPAI) and high pathogenic (HPAI) forms based on the severity of the illness caused in chickens. Most AI viruses are low pathogenic and typically cause little or no clinical signs in infected birds. There are many influenza subtypes, however, only H5 and H7 subtypes are known to have become high pathogenic in avian species.

What are the signs of disease in a commercial flock?

Some or all of the following clinical signs are evident in infected birds:

- quietness and extreme depression;
- sudden drop in production of eggs, many of which are soft-shelled or shell-less;
- wattles and combs become swollen and congested;
- swelling of the skin under the eyes;
- coughing, sneezing and nervous signs;
- diarrhea;
- haemorrhages on the hock;
- a few deaths may occur over several days, followed by a rapid rise in mortality resulting in the death of the majority of the flock

Avian influenza (AI) may be suspected on the basis of clinical signs and events leading to the disease. Contact your veterinarian or the CFIA office in your area if you suspect your poultry are showing signs of AI. Producers are obligated to report any suspicion of AI because it is a reportable disease under the Health of Animals Act.

How is the disease transmitted to commercial bird flocks?

Wild birds, especially waterfowl, are natural reservoirs for the influenza viruses. Wild birds are not generally affected by the disease but can still transmit the disease to domestic birds.

The disease can also spread to birds through contact with infected poultry and poultry products, and through manure and litter containing high concentrations of the virus, for example through contaminated clothing and footwear, vehicles and equipment, and feed and water.

Is avian influenza transmissible to humans?

Avian influenza (AI) viruses, such as the highly pathogenic H5N1 virus present in Asia, may, on rare occasions, cause disease in humans. Transmission to humans has occurred by people having close contact with infected birds or heavily contaminated environments.

Due to the potential for human infection, it is recommended that those people working with or in contact with poultry suspected of being infected with AI wear protective clothing, including face masks, goggles, gloves and boots.

Visit the [Public Health Agency of Canada Web site](http://www.phac-aspc.gc.ca) for more information on the potential effects of AI on people: www.phac-aspc.gc.ca.

Has avian influenza occurred in Canada?

In February 2004, the Canadian Food Inspection Agency (CFIA) identified the presence of a low pathogenic H7 avian influenza (AI) in the Fraser Valley area of southern British Columbia. Subsequent tests revealed the presence of highly pathogenic H7 AI in British Columbia in March 2004. The CFIA depopulated all infected premises (42 commercial and 11 backyard premises) on which highly pathogenic AI was found and pre-emptively destroyed all birds in the surrounding three-kilometre areas.

In November 2005, the CFIA identified the presence of a low pathogenic strain of H5N2 on two duck farms in the Fraser Valley. The two duck farms were depopulated and the 78 commercial bird farms within a five-kilometre radius were kept under observation for a three-week period. The surveillance period ended on December 10, 2005.

The Canadian Cooperative Wildlife Health Centre sampled more than 4,400 wild ducks for H5 or H7 AI during the 2005 fall migration period. The survey found several types of lowly pathogenic strains of H5 influenza.

What can livestock producers do to prevent infection on their farm?

Wild bird populations, a natural reservoir for the influenza viruses, are beyond producers' control. Therefore, it is essential for commercial poultry producers to maintain strict biosecurity practices to prevent introduction of the virus in their flock.

On a farm:

- Keep poultry confined indoors ;
- Keep away from areas frequented by wild fowl;
- Keep strict control over access to your poultry houses by people and equipment;
- Keep equipment cleaned and disinfected before taking it into poultry houses;
- Do not keep bird feeders or create duck ponds on your property as they attract wild birds; and
- Maintain high sanitation standards.

What is the CFIA's role in controlling and preventing this disease from entering Canada?

Avian influenza (AI) is a reportable disease under the *Health of Animals Act*. This means that all suspected cases must be reported to the CFIA. All reported suspect cases are immediately investigated by inspectors from the agency. Avian influenza can be suspected based on clinical signs and events leading to the disease. However, since the signs and progression of AI in the flock are similar to other poultry diseases, confirmation through laboratory diagnosis is essential.

The CFIA imposes strict regulations on the import of poultry and poultry products from foreign countries. These regulations are enforced through port-of-entry inspections.

In the event of an outbreak of a foreign animal disease, the goal of the Agency's emergency response is to prevent further spread of the disease and protect animal health. In an AI outbreak, the CFIA would employ its "stamping out" policy in an effort to eradicate the disease.

Actions include:

- The humane destruction of all infected and exposed animals;
- Surveillance and tracing of potentially infected or exposed poultry;
- Strict quarantine and controls on movement of poultry; and
- Thorough decontamination of infected premises.

Canada can regain its disease free status and resume normal trade in poultry products once the disease control operations are completed and AI has been eradicated.

What can travellers do to avoid bringing the disease into the country?

While out of the country:

Avoid visiting areas where you may come into contact with live birds, such as poultry farms, live bird markets or any other area where birds congregate. This is most important in countries experiencing an outbreak of high pathogenic avian influenza (an updated list of countries affected by AI can be found at the [World Organisation for Animal Health Web site](http://www.oie.int/eng/en_index.htm) at http://www.oie.int/eng/en_index.htm. If you are in contact with live birds infected with the AI virus, the virus may persist on clothing, footwear and in hair. Take appropriate personal hygiene measures including thorough hand washing and showering, wash clothing, and clean and disinfect footwear.

On returning home:

1. Ensure all birds and poultry products you wish to bring into Canada are eligible for entry and declare all animal products upon arrival.
2. Take appropriate personal hygiene measures including thorough hand washing and showering, wash clothing, and clean and disinfect footwear after arrival to ensure they are free of soil and manure.
3. Avoid visiting poultry farms upon return from a country affected by AI.

For more travel information, visit [Public Health Agency of Canada Travel Medicine Program Web site](http://www.TravelHealth.gc.ca) at www.TravelHealth.gc.ca.

Can other animals contract avian flu?

Avian influenza (AI) typically affects species of food producing birds (chickens, turkeys, quails, guinea fowl, etc.), as well as pet birds and wild birds. Studies have shown that a small number of mammalian species, including pigs, seals, whales, mink, and ferrets, are susceptible to natural infection with AI viruses.

How to get more information

Contact the Canadian Food Inspection Agency (CFIA) area offices:

Atlantic Area: (506) 851-7400

Quebec Area: (514) 283-8888

Ontario Area: (519) 837-9400

Western Area: (403) 292-4301

You can also find the telephone number of your local CFIA office by consulting the blue pages of your local phone directory.

Public Health Agency of Canada Web site:

http://www.phac-aspc.gc.ca/influenza/avian_e.html

Health Canada Web site: http://www.hc-sc.gc.ca/iyh-vsv/diseases-maladies/avian-aviare_e.html

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PROPER HANDLING AND COOKING: THE KEY TO SAFE POULTRY

Proper handling and cooking of poultry provides protection against the bird flu virus, and against other viruses and bacteria, including Salmonella and E.coli.

Handle raw poultry with care every time

- Wash hands thoroughly before and after handling raw poultry.
- Prevent cross-contamination:
 - ✓ Keep raw poultry, meat and fish, and their juices away from other foods.
 - ✓ Keep them covered, and store them away from cooked and other ready-to-eat foods.
 - ✓ Wash the cutting board, knife and counter top with hot, soapy water.
 - ✓ Sanitize the cutting board, knife and utensils, using a solution of 1 teaspoon chlorine bleach in 1 quart of water.
 - ✓ And don't forget to clean the faucet and kitchen sink!

Cook poultry (chicken and turkey) thoroughly

- The Canadian Food Inspection Agency recommends that consumers cook poultry to 85°C (185°F).
- Check with a food thermometer to make sure the food has reached the proper temperature.

EGGS ARE SAFE IF COOKED PROPERLY

Studies have shown that the bird flu virus is destroyed by temperatures required for pasteurization and cooking of products like eggs. The Canadian Food Inspection Agency advises consumers to avoid eating raw or lightly cooked eggs.

Avoid eating or tasting

- cookie dough, raw batter or filling made with raw eggs;
- salad dressings and sauces made with raw eggs, such as homemade Caesar salad dressing, mayonnaise; ice cream, mousses, and other desserts;
- egg nog and other beverages made with raw eggs, unless thoroughly cooked.

TIP: Use pasteurized eggs for these products or buy commercially made mayonnaise, dressings, sauces and desserts.

Cook eggs thoroughly

- Boil, fry and poach eggs until the egg yolk and egg white are firm and not runny.
- Cook egg mixtures made with an egg-milk base to 71°C (160°F).
- Cook casseroles and other dishes made with raw eggs to 71°C (160°F).
- Check with a food thermometer to make sure the mixture has reached the proper temperature.

More food safety tips

- Wash your hands with soap and water after handling raw eggs.
- Wash counter tops and utensils with hot soapy water.

Source: Reprinted with permission from Sodexo Canada

Sample

EMPLOYEE CONTACT LIST

NAME	POSITION	HOME PHONE	CELL PHONE	OTHER PHONE	EMAIL ADDRESS	EMERGENCY CONTACT NAME/ RELATIONSHIP TO EMPLOYEE/ PHONE (PARENT, SPOUSE OR GUARDIAN)

***Recuperated
Sample***

PANDEMIC TRACKING LIST

NAME	POSITION	ILL (DATE SYMPTOMS FIRST NOTED)	SUSPECTED ILL (DATE)	ABSENT FROM WORK (DATE)	RECUPERATED & RETURNED TO WORK (DATE)	HAS LOST FAMILY MEMBER (SPECIFY)	SPECIAL NEEDS (SPECIFY)

Differentiating Influenza from a Common Cold

SYMPTOM	FLU (INFLUENZA)	COLD (RHINO VIRUS)
Fever	Usual, sudden onset 38° - 40°C and lasts 3-4 days	Rare
Headache	Usual and can be severe	Rare
Aches and pains	Usual and can be severe	Rare
Fatigue and weakness	Usual and can last 2-3 weeks or more	Sometimes, but mild
Extreme fatigue	Usual, early onset can be severe	Rare
Nausea, vomiting	In children < 5 years old	Rare
Runny, stuffy nose	Rare	Usual
Sneezing	Rare	Usual
Sore throat	Rare	Usual
Chest discomfort	Usual and can be severe	Sometimes, but mild to moderate
Complications	Respiratory failure; can worsen a current chronic condition; can be life-threatening	Congestion or earache
Prevention	Influenza vaccine; frequent handwashing, cover your cough	Frequent handwashing cover your cough

Source: Vancouver Coastal Health, Regional Pandemic Influenza Response Plan, May 2005

Sample Notice on Basic Hygiene**PROTECTING YOURSELF AND OTHERS
AGAINST RESPIRATORY ILLNESS**

→ **HANDWASHING** IS THE MOST IMPORTANT THING YOU CAN DO TO PROTECT YOURSELF.

→ Cover your nose and mouth when coughing or sneezing

- Use a tissue and dispose of this once used in the waste.
- Always wash hands after coughing and sneezing or disposing of tissues.

→ Keep your hands away from your mouth, nose and eyes.

→ Avoid contact with individuals at risk (e.g. small children or those with underlying or chronic illnesses such as immune suppression or lung disease) until influenza-like symptoms have resolved.

→ Avoid contact with people who have influenza-like symptoms.

→ Ask people to use a tissue and cover their nose and mouth when coughing or sneezing and to wash their hands afterwards.

Source: Government of New Zealand, *Influenza Pandemic Planning: Business Continuity Planning Guide*, October 2005

CORRECT HANDWASHING PROCEDURES

To ensure proper handwashing by food handlers, the following steps must be practised:

1. Wet hands and exposed arms (at least up to the wrists) with warm running water;
2. Apply liquid soap;
3. Vigorously rub together the surfaces of liquid soap, lathered hands and exposed arms for at least 20 seconds;
4. Use a brush under the fingernails and other very dirty areas;
5. Follow with a thorough rinsing with clean, warm water (wrists pointed downwards);
6. Soap and lather vigorously again;
7. Rinse hand and wrists thoroughly; and
8. Dry hands with a single-use paper towel. Use paper towel to turn off tap (if not using a foot-controlled tap activation).

NOTE: Never dry hands on apron or dishtowel, as this would re-contaminate hands.

In addition to proper handwashing, fingernails should be trimmed, filed and maintained short so that proper handwashing will effectively remove soil from under and around them.

Source: CRFA's Food Safety Code of Practice, 2005

Sample Poster

Correct Handwashing Procedure

8 Steps

Step 1: Wet hands with warm running water

Step 2: Apply soap

Step 3: Lather

Step 4: Scrub hands and arms for at least 20 seconds

Step 5: Rinse well under warm running water

Step 6: Apply soap and lather again

Step 7: Rinse well under warm running water

Step 8: Dry hands and arms with a single-use paper towel and shut tap off with paper towel

Source: CRFA's Food Safety Training Posters.

Sample Poster

Sodexho

STOP THE GERMS!

Tips to keep germs from spreading

Coughing and sneezing *etiquette*

- Cover your nose and mouth with a tissue when you cough or sneeze.
- If you don't have a tissue, cough or sneeze into your upper arm.
- Turn your face away from others around you.
- Put used tissues into a waste basket.
- Wash your hands with soap and water after coughing or sneezing.
- Use an alcohol-based hand sanitizer when hand washing is not possible.
- Avoid touching your mouth, nose or eyes.
- Stay home from work or school if you are sick.

CLEAN HANDS

Important steps to keep you safe

Wash hands with soap and water thoroughly and often.

- Wash them for at least 20 seconds.
- Rinse them with clean water.
- Turn off the faucet with a paper towel, *not* with your clean hands!
- Dry your hands with a paper towel or use an air dryer.

Always wash hands

- after using the restroom
- after sneezing, coughing or blowing your nose
- before handling food and often during food preparation
- after handling raw meat, poultry, seafood and eggs
- after changing diapers
- after handling pets
- after handling trash
- after touching anything that's dirty or contaminated

Sodexho Food Safety

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TIPS FOR STAYING HEALTHY DURING A PANDEMIC

Personal Health

- Eat, rest well and exercise in moderation
- Wash your hands frequently with warm water and soap
- Cover your nose and mouth when coughing or sneezing
- Minimize visitors to your home
- Check up on friends and family who live alone
- Watch for regular influenza updates from your Public Health Department
- Get the influenza vaccine when available
- It is recommended that people at high risk of getting influenza and its complications and their caregivers receive an annual influenza vaccine

Washing hands is one of the most important ways to prevent the spread of the influenza

Stay away from crowds

- Stock up on basic items
- Shop at smaller stores with smaller line-ups
- Shop at off peak hours and find out which stores stay open late/24 hours
- If possible phone ahead your grocery order for quick pick up
- Order groceries over the phone/on line for delivery
- Arrange to pay bills at ATMs, on line or over the phone
- Cancel or postpone family gatherings, outings or trips

If you cannot avoid crowds, minimize the amount of time you spend around people

Stay healthy at work

- Work from home or arrange to work flex hours if possible
- Wash your hands frequently with warm water and soap
- Use waterless sanitizing gel to clean hands if soap and water are not available
- Clean objects and hard surfaces that are handled by many people with a disinfectant
- Use stairs instead of crowded elevators

If you feel unwell, stay home, rest and drink plenty of fluids

Source: Vancouver Coastal Health, Regional Pandemic Influenza Response Plan, May 2005

Sample Notice

INFLUENZA NOTIFICATION

Influenza is a contagious disease. There is currently an increase in the number of people in Canada with influenza. In order to reduce the spread of influenza in this workplace; the following is required of everybody:

DO NOT COME TO WORK if you have:

- Chills, shivering and a fever (temperature $>38^{\circ}\text{C}$)
- Onset of muscle aches and pains
- Sore throat
- Dry cough
- Trouble breathing
- Sneezing
- Stuffy or runny nose
- Tiredness

If some of the above apply to you, please go home and wait until you have recovered before returning to work.

If you have recently arrived from overseas or returned from overseas, please ask to speak to the Influenza Manager (see below)

If you start to feel ill at work, **DO NOT** leave your work area

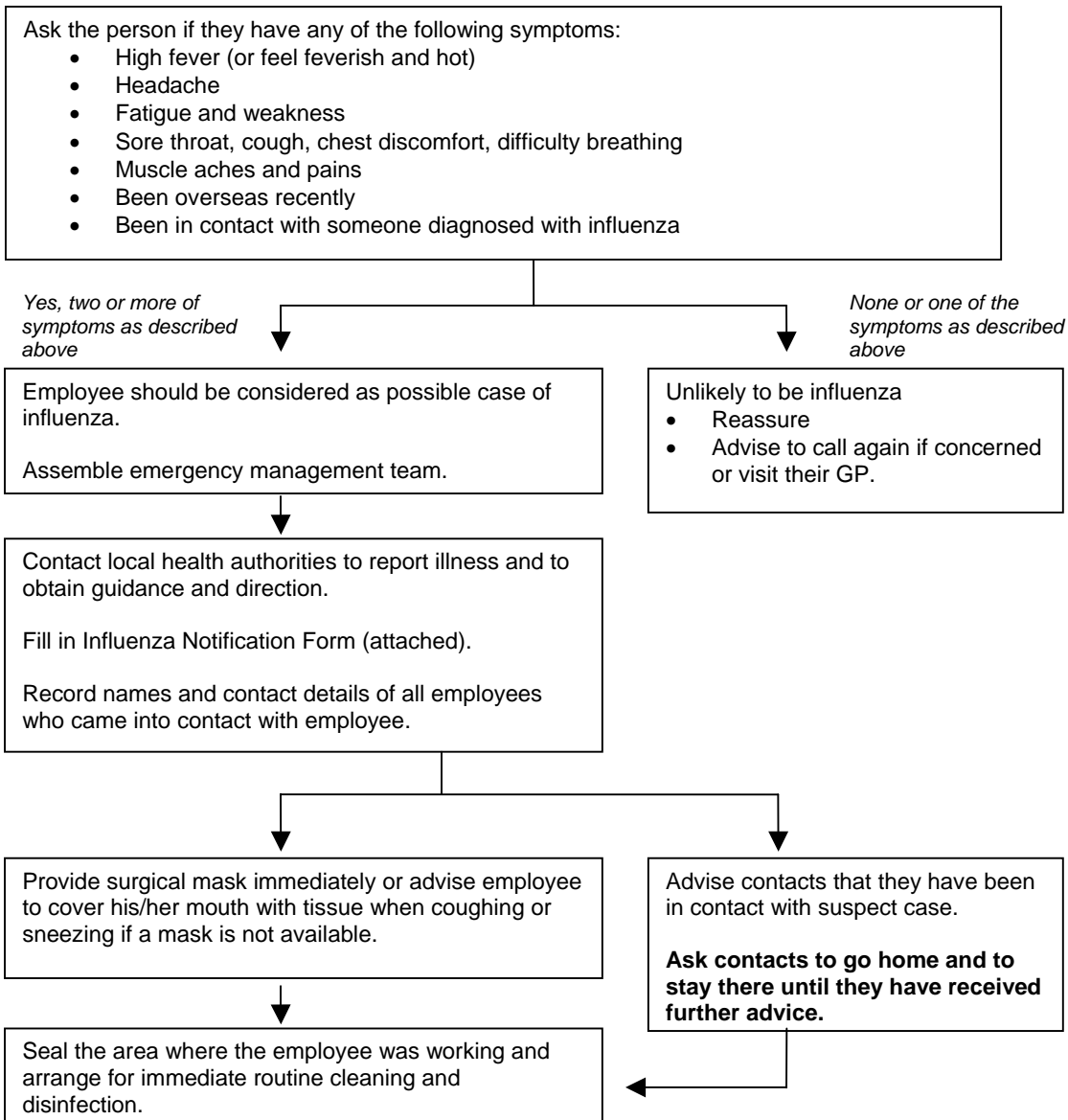
Call your Influenza Manager _____ Ext _____

Source: Government of New Zealand, Influenza Pandemic Planning: Business Continuity Planning Guide, October 2005

Sample

Screening Checklist for Detection and Management of Suspected Pandemic Influenza Cases

1. Avoid direct contact with the person if possible (manage the process over the telephone).
2. Immediately isolate the person (have person move to a room away from other employees).



Source: Adapted from Government of New Zealand, *Influenza Pandemic Planning: Business Continuity Planning Guide*, October 2005

Sample

NOTIFICATION FORM: SUSPECTED INFLUENZA CASE AT WORK

Details of Affected Staff

Name:	Worksite:	Location of Isolation:
Job Title:		Date of Birth:
Address:		
Telephone No: _____ (W) _____ (H) _____ (M)		
<p>Symptoms noticed:</p> <input type="checkbox"/> Fever <input type="checkbox"/> Body aches <input type="checkbox"/> Headache <input type="checkbox"/> Fatigue <input type="checkbox"/> Dry cough <input type="checkbox"/> Others, details: _____ <input type="checkbox"/> Cold		
Time of fever on-set: _____		
Time of isolation: _____		
Travel history over the past 8 days:		
Countries visited: _____ Flights taken: _____		
Where referred:		
Contact List <i>(See separate page)</i>		

Details of Reporter

Name:	Job Title:
Telephone No: _____ (W) _____ (H) _____ (M)	

Source: Adapted from the Government of New Zealand, Influenza Pandemic Planning: Business Continuity Planning Guide, October 2005

Sample

**CONTACT LIST OF PEOPLE WHO HAVE BEEN IN
CLOSE PROXIMITY TO INFECTED PERSON**

Persons whom the affected staff has interacted with since displaying symptoms.			
Name	Email	Telephone No.	Address
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			

APPENDIX D

Sequencing of Industry Responses to Sample Scenarios Based on WHO Pandemic Phases

The following chart provides sample responses and actions to sample scenarios based on the World Health Organization's pandemic phases:

INTERPANDEMIC PERIOD			
	WHO description of phase	Canadian context (sample scenarios)	Sample business actions and responses
Phase 1	No new influenza virus subtypes have been detected in humans. An influenza virus subtype that has caused human infection may be present in animals. If present in animal, the risk ^(a) of human infection or disease is considered to be low.		<ul style="list-style-type: none"> • Obtain management commitment and resources needed to develop and maintain a pandemic preparedness plan and program. • Appoint a planning co-ordinator. • Assemble a planning team. • Develop planning objectives, i.e. maintaining business operations, employee protection, etc. • Assign responsibility for tasks needed to coordinate the development and maintenance of a plan.
Phase 2	No new influenza virus subtypes have been detected in humans. However, a circulating animal influenza virus subtype poses a substantial risk ^(a) of human disease.	H5N1 virus common in bird populations throughout the world. WHO issues advisory about the risk of H5N1 virus mutating to human-transmissible strain.	<ul style="list-style-type: none"> • Establish a planning framework and schedule. • Undertake business impact analysis.

PANDEMIC ALERT PERIOD

	WHO Description of Phase	Canadian Context (sample scenarios)	Sample business actions and responses
Phase 3	Human infection(s) with a new subtype, but no human-to-human spread, or, at most, rare instances of spread to a close contact. ^(b)	Poultry farmer in Vietnam and his 3 children diagnosed with H5N1 virus. WHO confirms first cases of animal-to-human transmission of H5N1 virus.	<ul style="list-style-type: none"> • Set priorities for food production and services. • Document required resources including critical staff, information, equipment, utilities, computer and communication systems, supplies, etc. • Develop plan and procedures to address supply and staff shortfalls. • Determine whether your suppliers have undertaken reasonable contingency planning to address pandemic issues. • Identify alternative suppliers and products as back-up. • Consider increasing inventories of critical supplies. • Establish management team to focus on human resource issues, including: workplace safety and protection; communication within the organization; tracking the health status of employees; tracking employee availability; how to suspend non-critical operations; the reassignment of staff to critical jobs. • Set clear policies and emergency employees procedures to minimize illness and to prevent influenza spread prior to pandemic. • Develop comprehensive contact lists. • Establish an emergency operations centre. • Establish a pandemic monitoring and information collection system. • Develop communication plans that address audiences to be contacted, messages to be delivered, tools to be used and feedback mechanisms. • Provide information and training to staff on measures to minimize influenza transmission.
Phase 4	Small cluster(s) with limited human-to-human transmission but spread is localized, suggesting that the virus is not well adapted to humans. ^(b)	A half dozen sudden deaths of villagers are attributed to H5N1 virus in 2 Southeast Asia countries.	
Phase 5	Larger cluster(s) but human-to-human spread still localized, suggesting that the virus is becoming increasingly better adapted to humans, but may not yet be fully transmissible (substantial pandemic risk).	H5N1 is responsible for a dozen more deaths in 4 Southeast Asia countries. The people who died had no known exposure to infected poultry, or connection with the areas where H5N1 spread is suspected. The WHO issues a regional pandemic alert for Southeast Asia.	

PANDEMIC PERIOD

	WHO Description of Phase	Canadian Context (sample scenarios)	Sample business actions and responses
Phase 6	Pandemic: increased and sustained transmission in general population.	<p>Pandemic spreads rapidly from Southeast Asia to Europe, Africa and India. WHO issues world-wide pandemic alert. International trade and travel is at a standstill. Containment efforts in affected countries are abandoned.</p> <p>First Canadians diagnosed with H5N1 virus in Vancouver. Vancouver Medical Officer of Health directs the closing of all schools, universities, day care centres and other public gathering places and advises public to avoid crowded places.</p> <p>Employee arrives at your restaurant with symptoms consistent with H5N1.</p>	<ul style="list-style-type: none"> • Alert staff to change in pandemic status. • Update pandemic plan. • Conduct training exercises to practise, educate, motivate and test plans and procedures. • Make adjustments to plan based on results of training exercises. • Activate staff travel restrictions. • Activate measures to minimize introduction and/or spread of influenza in workplace (post notices, workplace cleaning, social distancing, etc). <ul style="list-style-type: none"> • Alert staff to change in pandemic status. • Activate essential business continuity measures. • Communicate with staff to promote confidence in the workplace. • Activate communication pipeline to local health authorities. • Update contact/tracking information for all staff. <ul style="list-style-type: none"> • Activate procedures for screening and managing suspected pandemic influenza case. • Assemble emergency management team. • Contact local health authorities to report illness and obtain guidance and direction. • Determine internal and external reach of implications from illness. • Activate internal communication plan using

		<p>Over 150,000 people have been infected by the H5N1 virus across Canada and it is estimated that another one million people will be infected over the next 6 weeks with the peak expected in 2-3 weeks. The federal Minister of Health prohibits public gatherings.</p>	<p>templates prepared in advance. (Provide information on the situation, any public health messages, give direction on what employees can do, strive to reduce anxiety/fear/panic.)</p> <ul style="list-style-type: none"> • Activate external (non-media) communication plan using templates prepared in advance (.i.e. suppliers, customers, other restaurants in proximity, police, etc.). • Activate media communications plan with prepared spokesperson. • Document all activities and decisions. • Activate contact tracing of all employees. • Reduce employee interaction with customers. • Ensure meticulous hand hygiene and environmental cleaning. <ul style="list-style-type: none"> • Activate policies for employees who have been exposed to influenza or are suspected to be ill. • Cease non-essential services and activities. • Determine feasibility of keeping restaurant open or partially open (limited menu, reduced hours). • Activate excess capacity procedures. • Activate plan for employees needing help when laid off. • Activate emergency communication plan. • Activate process for recovered/well staff members to return to work if restaurant operational.
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POST-PANDEMIC PERIOD

	WHO Description of Phase	Canadian Context (sample scenarios)	Sample business actions and responses
	Return to interpandemic period (phase 1 or 2)	No new cases of H5N1 have been diagnosed in your community for 3 weeks and the Medical Officer of Health advises that the crisis is over.	<ul style="list-style-type: none"> Implement recovery plan (i.e. stress counseling, recruitment and training of replacement workers, communication with customers and suppliers). Conduct full debrief process. Review and update risk and impact assessment. Revise your business pandemic response as necessary.

- (a) The distinction between **phase 1** and **phase 2** is based on the risk of human infection or disease resulting from circulating strains in animals. The distinction is based on various factors and their relative importance according to current scientific knowledge. Factors may include pathogenicity in animals and humans, occurrence in domesticated animals and livestock or only in wildlife, whether the virus is enzootic or epizootic, geographically localized or widespread, and/or other scientific parameters.
- (b) This distinction between **phase 3**, **phase 4** and **phase 5** is based on an assessment of the risk of a pandemic. Various factors and their relative importance according to current scientific knowledge may be considered. Factors may include rate of transmission, geographical location and spread, severity of illness, presence of genes from human strains (if derived from an animal strain), and/or other scientific parameters.

GLOSSARY OF TERMS AND ACRONYMS

Antivirals	Antivirals are drugs used for the prevention and early treatment of influenza. Antivirals work by reducing the ability of the virus to reproduce but do not provide immunity against the virus.
Avian Influenza (AI)	A contagious viral infection that can affect all species of birds.
BCP	Business continuity planning (BCP). Enables critical services or products to be continually delivered to clients. Instead of focusing on resuming a business after critical operations have ceased, or recovering after a disaster, a business continuity plan endeavours to ensure that critical operations continue to be available.
CBO	Congressional Budget Office.
CFIA	Canadian Food Inspection Agency (CFIA). Safeguards Canada's food supply and the plants and animals upon which safe and high-quality food depends.
CRFA	Canadian Restaurant and Foodservices Association (CRFA).
Enzootic	An enzootic disease is constantly present in an animal population, but usually only affects a small number of animals at any one time.
Epidemic	An outbreak of infection that spreads rapidly and affects many individuals in a given area or population at the same time.
Epizootic	An epidemic outbreak of disease in an animal population, often with the implication that it may extend to humans. For example, Rift Valley fever (RVF) primarily affects livestock and can cause disease in a large number of domestic animals -- an "epizootic" -- and the presence of an RVF epizootic can lead to an epidemic among humans who are exposed to diseased animals.
Flu	Another name for influenza infection, although it is often mistakenly used in reference to gastrointestinal and other types of clinical illness.
Food-borne illness	Food contaminated by bacteria, viruses and parasites. It's sometimes called food poisoning, and can feel like the flu.
GDP	Gross domestic product.
H5N1	A strain of influenza type A virus that moved in 1997

	from poultry to humans. While the outbreak of this virus was rapidly contained, it produced significant morbidity and mortality in persons who became infected, probably from direct contact with infected poultry.
Infection	Condition in which virulent organisms are able to multiply within the body and cause a response from the host's immune defences. Infection may or may not lead to clinical disease.
Infectious	Capable of being transmitted by infection, with or without actual contact.
Influenza	A highly contagious, febrile, acute respiratory infection of the nose, throat, bronchial tubes, and lungs caused by the influenza virus. It is responsible for severe and potentially fatal clinical illness of epidemic and pandemic proportions.
Influenza A	A category of influenza virus characterized by specific internal proteins and further subgrouped according to variations in their two surface proteins (hemagglutinin and neuraminidase). It infects animals as well as humans and has caused the pandemic influenza infections occurring in this century.
Pandemic	Referring to an epidemic disease of widespread prevalence around the globe.
PHAC	Public Health Agency of Canada (PHAC). <i>To promote and protect the health of Canadians through leadership, partnership, innovation and action in public health.</i>
PSEPC	Department of Public Safety and Emergency Preparedness Canada (PSEPC). Created in 2003 to ensure coordination across all federal departments and agencies responsible for national security and the safety of Canadians. <i>From natural disasters to crime and terrorism, our mandate is to keep Canadians safe.</i>
SARS	Severe Acute Respiratory Syndrome.
Strain	A group of organisms within a species or type that share a common quality. For example, currently circulating strains of influenza include type A (H1N1), type A (H3N2), and type B (H3N2).
Symptoms	Any perceptible, subjective change in the body or its functions that indicates disease or phases of disease, as reported by the patient.
Type	A classification of influenza viruses based on characteristic internal proteins.

Vaccine	A substance that contains antigenic components from an infectious organism. By stimulating an immune response (but not disease), it protects against subsequent infection by that organism.
Virus	A group of infectious agents characterized by their inability to reproduce outside of a living host cell. Viruses may subvert the host cells' normal functions, causing the cell to behave in a manner determined by the virus.
WHO	World Health Organization (WHO). A specialized agency of the United Nations generally concerned with health and health care.

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- ¹ Milan Brahmbhatt, the World Bank's East Asia and the Pacific Economist, Canadian Press, November 2005
- ² *The Economic Impact of An Influenza Pandemic*, Department of Finance, Economic Analysis and Forecasting Division, February 24, 2006
- ³ *A Potential Influenza Pandemic: Possible Macroeconomic Effects and Policy Issues*, Congressional Budget Office (CBO), December 2005
- ⁴ *An Investor's Guide to Avian Flu Special Report*, BMO Nesbitt Burns Research, August 2005
- ⁵ *International Travel Survey*, Statistics Canada
- ⁶ *Monthly Restaurants, Caterers and Taverns Survey*, Statistics Canada
- ⁷ *Monthly Retail Trade Survey*, Statistics Canada
- ⁸ "SARS Cuts Retail Volume 4% in Toronto", National Post, May 10, 2003