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## Preamble

The Influenza Pandemic Annex is part of the District's overall emergency preparedness program. As such, the annex serves to augment the District Emergency Response Plan not to replace it. This document is a summary of the Pandemic Planning Annex.

The Annex outlines strategies to address specific issues associated with influenza pandemic, which may not be addressed in other components of the Plan. Conversely, where appropriate, some elements of the Pandemic Plan are addressed in other sections of the District Plan.

When making decisions regarding the implementation of any portion of this annex, District authorities must keep in mind the four goals of the District's Emergency Response Plan:

- Save lives and reduce injury
- Incident stabilization
- Property preservation
- Safeguard the reputation and well-being of the District.

Specific pandemic response activities will be highly dependent on emerging data and direction provided by health authorities. As with any emergency plan, this annex is a living document and will be subject to updates.

*Author's Comment: On June 11, 2009 the World Health Organization (WHO) declared the H1N1 influenza had reached pandemic level — marking the first time a global pandemic had occurred in 41 years. This Annex was developed prior to that date and, as such, most references and assumptions in the document reflect this unless otherwise noted in an update or cited in the footnotes.*

## Introduction

Scientists and experts from the World Health Organization (WHO) believe the world is now closer to an influenza pandemic than at any time since 1968.<sup>1</sup> Current predictions estimate 15-35% of North America's population will be affected by the pandemic. This will cause a disruption to society, including an impact on schools.

Experts anticipate schools will contribute to the spread of the influenza, due to close contact among students and staff.

Predicted spread and severity:

- Over a several month period, illness rates are predicted to be 15-35%
- Global spread in 3 months
- Vaccine availability in 6 months after initial outbreak
- Anti-viral treatment likely to be in short supply and may not be effective

Potential Effects:

- Large percentages of population unable to work for days to weeks during pandemic
- Diminished numbers of people and expertise available
- Diminished emergency and essential services – fire, police, and medical

School Effects:

- Large numbers of student absenteeism
- Large numbers of staff absent, making it difficult to maintain school operations
- Loss of services from suppliers (e.g., food service, other essential products)
- Potential for school closures

At the same time, schools can play an important role in mitigating against the spread, and preparing for and responding to a pandemic. This includes education, surveillance and designation as non-traditional care sites for clinics or hospital surge.

### What Can Be Expected if a Pandemic Hits?

The actual impact of a future pandemic is unpredictable. Speculations are based on the information from past pandemics and the SARS outbreak in 2003.

The 2003 SARS crisis showed a sharp increase in worker absenteeism. Employees reported in ill or stayed home due to fear or to care for others who were sick. An influenza pandemic will have short and long-term effects on communities. It is important for schools to evaluate their role in the community and the roles of other agencies, and assess how these roles will be impacted by:

- Surge in demand for health care services: hospitals, clinics, doctor's offices, or pharmacies
- Self-quarantine

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<sup>1</sup> On June 11, 2009, the World Health Organization declared the H1N1 influenza had reached the pandemic level.

- Closure of nonessential services involving social contact: shopping malls, community centers, libraries, public transit, theatres, sporting events, museums or restaurants
- Potential closure of schools and day-cares due to high absenteeism
- Critical infrastructure may operate below capacity: grocery stores, utilities, postal services, banking, telecommunications and waste-removal
- Trade, travel and tourism may be greatly affected (as seen for SARS)

## WHO PANDEMIC ALERT PHASES

The World Health Organization uses a series of six phases of pandemic alert as a system for informing the world of the seriousness of the threat and of the need to launch progressively more intense preparedness activities. The designation of phases, including decisions on when to move from one phase to another, is made by the Director-General of the World Health Organization.

Changes from one phase to another are triggered by several factors, which include the epidemiological behavior of the disease and the characteristics of circulating viruses. Schools play an important role in monitoring influenza surveillance systems and helping to gather and disseminate information to its student, staff and parents.

WHO Pandemic Phases are based on the world-scene; local infection rates and severity of impact may vary considerably from one geographic location to the next.

Table 1 World Health Organization Pandemic Phases

<b>INTER-PANDEMIC PHASE</b>	<b>Low risk of human cases</b>	<b>1</b>
<b>New virus in animals NO human cases</b>	<b>Higher risk of human cases</b>	<b>2</b>
<b>PANDEMIC ALERT</b>  <b>New virus causes human cases</b>	<b>No or very limited human to human transmission</b>	<b>3</b>
	<b>Evidence of increased human-to-human transmission</b>	<b>4</b>
	<b>Evidence of significant human-to-human transmission</b>	<b>5</b>
<b>PANDEMIC</b>	<b>Efficient and sustained human-to-human transmission</b>	<b>6</b>

## Inter-pandemic Period

- 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 animals, the risk of human infection or disease is considered to be low.
- Phase 2:** No new influenza virus subtypes have been detected in humans. However, a circulating animal influenza virus subtype poses a substantial risk of human disease.

## Pandemic Alert Period

- 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.
- Phase 4:** Small cluster(s) with limited human-to-human transmission but spread is highly localized, suggesting that the virus is not well adapted to humans.
- 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).

## Pandemic Period

- Phase 6:** Pandemic: increased and sustained transmission in general population

As of June 11, 2009, the world is presently in Phase 6.

(Source: [http://www.who.int/csr/disease/avian\\_influenza/phase/en/index.html](http://www.who.int/csr/disease/avian_influenza/phase/en/index.html))

## Assumptions

WHO and the Federal government recommend the following assumptions in planning for a pandemic. These assumptions are based on previous pandemics, and contain information on how a pandemic might affect school aged children and individual communities.

1. Susceptibility to the pandemic virus will be universal.
2. Clinical attack rate will be 30% or higher in the overall population.
3. **Children will shed the greatest amount of virus and therefore are likely to post the greatest risk for transmission.**
4. **Illness rates will be highest among school-aged children (about 40%)** and decline with age.
5. Among working adults, an average of 20% will become ill during a community outbreak.
6. In a severe pandemic, absenteeism may reach 40% during the peak weeks of a community outbreak, with lower rates of absenteeism during the weeks before and after the peak.
  - a. Not all absenteeism will be due to the individual being ill.
  - b. **It is anticipated a total of 30% work force absentee rate for the entire pandemic outbreak.**
7. Some persons will become infected but not develop clinically significant symptoms. Asymptomatic or minimally symptomatic individuals can transmit infection.
8. Of those who become ill, 50% will seek outpatient medical care. With availability of effective antiviral drugs for treatment, this proportion may be higher in subsequent waves of the pandemic.
9. The number of hospitalizations and deaths will depend on the virulence of the pandemic virus. Estimates differ about 10-fold between more and less severe scenarios.
10. Risk groups for severe and fatal infection cannot be predicted with certainty but are likely to include infants, the elderly, pregnant women, and persons with chronic medical conditions.
11. Certain public health measures (closing schools, quarantining household contacts of infected individuals) are likely to increase rates of absenteeism.
12. The typical incubation period (interval between infection and onset of symptoms) for influenza is approximately 2 days.
  - a. Persons who become ill may shed virus and can transmit infection for up to one day before onset of illness. Viral shedding and risk of transmission will be greatest during the first 2 days of illness.
13. On average, infected persons will transmit infection to approximately two other people.
14. Multiple waves (periods during which outbreaks occur across the country) of illness could occur with each wave lasting 6 to 8 weeks.
  - a. At least two waves are predicted.
  - b. Historically, the largest waves have occurred in the fall and winter, but the seasonality of a pandemic cannot be predicted with certainty.

(Source: [www.pandemicflu.gov](http://www.pandemicflu.gov) - U.S. Health and Human Services Influenza pandemic Plan)

## Goals and Objectives

In addition to the goals and objectives identified in the District Emergency Response Plan, the Influenza pandemic Annex aims to

1. Minimize the number of illnesses and deaths related to a influenza pandemic
2. Preserve continuity of essential school functions (Business Continuity Planning)
3. Minimize educational and social disruption
4. Minimize academic losses
5. Minimize economic losses
6. Meet regulatory requirements imposed by regulatory agencies, such as government/health authorities.

## Concept of Operations

### A. Incident Management

The provincial health authority will lead the province's health and medical response to an influenza pandemic; and support the local health delivery agencies in meeting regional health needs, surveillance and reporting responsibilities, delivery of vaccines and anti-viral drugs, and communicating with various stakeholders and the public.

As outlined in the District Emergency Plan, the District utilizes the Incident Command System (ICS) to manage matters pertaining to all district emergencies, including an influenza pandemic.

This shall include:

1. Utilizing a Unified Command structure with participation by local health authorities and disaster services agencies, as required
2. Activation of the District Emergency Operations Center (either virtually or in reality)
3. Involvement of elected School Board members for emergency policy decisions
4. Provisions of emergency supply and services procurement
5. Implementing a Risk Communications Plan

### B. Emergency Management Organization

As outlined in the District Emergency Response Plan:

1. The District will operate under the Incident Command System.
  - i. The Superintendent shall establish an Emergency Response Plan Review Committee. The committee shall be comprised of the Command and General Staff of the District Emergency Response Team (as per ICS organization) **and** other persons deemed appropriate and/or necessary by the Superintendent.

## Responsibilities

### **A. The District is responsible for:**

1. Coordinating District plans with plans developed by governing health authority.
2. Ensuring the District Emergency Response Plan is current.
3. Ensuring Command/General Staff positions are assigned a primary and two designated alternates.
4. Developing capabilities to implement non-medical measures, as guided by the pandemic epidemiology and governing health authority, which will decrease the spread of disease throughout the District.
5. Developing and implementing pandemic preparedness activities and a business continuity plan aimed at maintaining educational services and limiting the spread of disease throughout the pandemic.
6. Educating the school community about approved public health practices and what each person can do to prepare or respond to minimize health risks.
7. Developing and implementing educational support plans for isolated/quarantined students.
8. Making the District Plan, including contact information, available to community partners as needed.
9. Providing schools with policy direction related to influenza pandemic issues.
10. Providing schools direction on surveillance and reporting of influenza cases.
11. Developing and implementing plans to support surge capacities needs of local health facilities.
12. Reporting, as required by the Public Health Act, staff and student absenteeism due to the influenza to the designated health authority.
13. Developing a recovery plan that provides educational and emotional support to staff and students in dealing with the loss of life.
14. Identifying and procuring needed resources.

### **B. Each School is responsible for:**

1. Ensuring the School Emergency Response Plan is current, with particular emphasis placed on position assignments and associated contact information.
2. Ensuring Command/General Staff positions are assigned a primary and two designated alternates.
3. Reviewing and implementing best practices for respiratory hygiene and universal precautions.
4. Reviewing procedures for sending ill individuals home and make adjustments if necessary.
5. Reporting staff and student absenteeism due to the influenza to the EOC Director or designate.
6. Documenting actions taken.
7. Updating staff on extent of infection at school and potential changes that might take place at school.

### **C. The Program Coordinator is responsible for:**

1. Ensuring the District's Plan is completed, current and documented on HZ Online.
2. Facilitating the Emergency Response Plan Review Committee meetings.
3. Ensuring all departments and stakeholders are represented on the Emergency Response Plan Review Committee, as per the Superintendent.
4. Ensuring District is in contact with health authorities and gov't departments regarding pandemic issues.
5. Ensuring accurate and timely information pertaining to influenza pandemic or infectious disease is available to District employees and other stakeholders as per the District's Crisis Communication Plan.

## Anticipated Impact on the District

Based on the assumptions previously listed in this document and calculations generated using FluWorkLoss®, the District can anticipate the following impact:

Table 2 Days Lost - 4 week pandemic duration and 25% clinical attack rate.  
Based on 100 employees and 1,000 students.

	Workdays Lost	Student Days Lost
Most Likely Scenario	76	439
Minimum Scenario	62	399
Maximum Scenario	97	488

## Closures

Closure of facilities within the District may be deemed necessary when it is no longer feasible to continue operations due to a decrease in student attendance, a reduction in faculty and staff presence or if the continued operation of the facility poses a serious health risk.

The following definitions have been established for emergency closures:

1. **Emergency School Closure** – a school is deemed unsafe, unhealthy, inaccessible or inoperable due to one or more unforeseen natural events, mechanical failures, or actions or inactions by one or more persons. Educational services may continue, at the discretion of the Superintendent, at an alternate site or through an alternate delivery system.
2. **Emergency District-wide School Closure** - all school buildings in the District are unsafe, unhealthy, inaccessible, or inoperable due to one or more unforeseen natural events, mechanical failures, or action or inactions by one or more persons. Educational services are suspended.
3. **Emergency District Closure** - all buildings in the District are unsafe, unhealthy, inaccessible, or inoperable due to one or more unforeseen natural events, mechanical failures, or action or inactions by one or more persons. All District operations are suspended.

## Risk Management Activities

The District shall implement risk management activities to address the needs of the District for each of the Pandemic Phases. This shall include activities for the following:

1. Access Control
2. Surveillance, Screening and Triage
3. Infection control/Precautions
4. Communication/Education
5. Additional Preparedness Activities as needed.

## Infection Control

The District understands that, if a pandemic occurs, the world may have to wait six to eight months after the first human pandemic flu case for a vaccine to be available. There may also be a shortage of antiviral medications. The District will focus on getting staff, students and their families prepared to control the spread of infection without reliance on vaccine or antiviral medication.

Pre-Pandemic: general infection control practices and education are in place to combat seasonal influenza outbreaks. These same practices would be applied during a pandemic. The District will take steps to re-educate students and staff on proper hygienic practices and seasonal vaccinations should be encouraged. This will be accomplished through a variety of methods.

The District will focus its education campaign on both seasonal and influenza pandemic; including:

1. Advocate individual / family preparedness
2. Advising parents about preparedness
3. Promote proper infection control practices
  - a. Hand washing
  - b. Covering coughs and sneezes
  - c. Social distancing
  - d. Keep living and working areas clean
  - e. Sanitizing computer keyboards and telephones
4. Explaining and promoting social distancing strategies
5. Encouraging people to stay home if ill
6. Keep distance from those who are sick
7. Avoid crowds
8. Stagger working hours or work from home, if possible

### Personal Protective Equipment (PPE)

The District will decide what personal protective equipment (PPE) will be made available to staff and students. Whenever possible, appropriate employee groups will be consulted prior to making this decision and shall align to existing Occupational Health and Safety practices of the District.

## Business Continuity Planning

Pandemic planning presents distinctive challenges from other threats the District may face. Unlike other disasters, the impact of a pandemic is more difficult to predict due to the anticipated differences in scale and duration. Global activities virtually ensure the affect of a pandemic event will be widespread and potentially threaten every continent. While other disasters typically have limited time durations, pandemics have proven to occur in multiple waves, each lasting two to three months. These differences and challenges highlight the need to address business continuity specifically within the context of a pandemic.

Business Continuity Planning is but one component of Contingency Planning. Contingency Planning is much broader in scope than Business Continuity Planning and includes a collection of programs and activities intended to manage corporate risk. Business Continuity Planning shares affinities with other elements of Contingency Planning. As such, there will be overlap between the District's business continuity activities and those of the District's Emergency Response Plan.

The following diagram demonstrates the relative timelines of key contingency planning components.



Figure 1 Contingency Planning Components

The District shall put in place a Business Continuity Plan that supports the District's operations during a pandemic.

## Human Resource Issues

The District's greatest asset is its people. During a pandemic, personnel in leadership positions or those who provide essential services are as likely to become ill as any one else. The limited number of available staff, including substitute teachers, contracted bus drivers or custodial staff, will have the most significant and immediate impact on the District's operations.

As pointed out in the assumptions, experts estimate absenteeism may reach 40% at the peak of a pandemic, during which time students and staff may be absent for several consecutive days. Staff absences may not be directly attributed to personal illness, but could be due to caring for sick family members, relatives, friends, imposed quarantine, loss of childcare (i.e. schools and daycares are closed) or fear.

The influenza pandemic virus will be highly transmissible and could be very deadly. For the safety of all, ill staff and students should be advised to remain home until they have fully recovered and, if need be, sent home.

Given the likelihood of a workforce shortage, the District will develop Human Resources (HR) strategies that address:

- Protecting the District's workforce during a pandemic.
- Minimizing staff absenteeism and its impact on school and district operations.
- Managing HR issues with diminished HR staff resources.

## Security

During a pandemic, people may be experiencing high levels of stress and anxiety. Actions that would normally seem out of the ordinary may be more typical. For those reasons, security at District facilities is an important component of pandemic response.

The District will take the following steps to protect students, staff and physical assets, as deemed necessary:

1. Enforce school policies related to the health and safety of staff and students
2. Using the ICS structure, assign personnel to provide security for supplies that may be in high demand during a pandemic
3. Protect and lock down the facility when appropriate (i.e. facility closure)
4. Maintain an accurate inventory of emergency equipment
5. Identify on-call security that can be ready to help if regular security are ill

Operations staff designated to perform security duties will assume the following responsibilities:

6. Keep infected/infectious persons in a designated area
7. If infected people are already in the building, they may need to be isolated
8. Restrict access to those who are infectious
9. Post signs on entrances and exits that specify policies of restricted movement or access

## **Supplies**

Basic non-medical supplies can help maintain the health and safety of students and staff. Maintaining the inventory of these supplies is important and should be checked on a regular basis, especially during a pandemic. If a pandemic hits, supply chains could be disrupted, affecting the inventory. The District will take steps to ensure a functional amount of supplies is available to staff and students.

## **Special Needs Populations**

The District is dedicated to ensuring every staff, student or parent is safe and secure while participating in district-sanctioned activities or visiting a district-operated facility.

To that end, the District will take the necessary precautions items to accommodate staff or student with special needs, with particular emphasis placed on the needs of those considered to be medically fragile.

## **Training and Exercises**

As part of the District Emergency Plan, the District will include training and exercises to address pandemic issues. All sites will be expected to participate in any mandated training and/or exercises.

## **Recovery**

Following an influenza pandemic, staff shortages due to disease, death, staff “burn-out” and other factors will be an issue for the District, along with many other community agencies. The District must consider the means for compassionate, yet efficient, transitioning of students and staff back to their normal routine.

The District’s recovery from an influenza pandemic will begin when District officials determine adequate personnel, supplies, resources and response systems can manage ongoing school activities.

If school or district closures have occurred, the District will consult with the local health authority to ensure the status of illness is safe for the District to re-open facilities.

During the recovery phase, the following items will be taken into consideration:

1. Facility Re-Entry and Environmental Safety
2. Mental Health Considerations
3. Return to School/Work Practices

## Definitions

**Antibiotic:** a naturally occurring substance that is capable of killing bacteria; it is usually in medication form. Examples include doxycycline and amoxicillin.

**Business continuity planning (BCP):** Enables critical services 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 endeavors to ensure critical operations continue to be available.

**Essential Services:** Services that must continue with little or no disruption in order for the District to continue operations.

**Antiviral medications:** medicines that can help to lessen the symptoms and duration of diseases that are caused by viruses.

**Attack rate:** the number of people who become ill after being exposed to an infectious agent.

**Avian Flu:** influenza virus that is transmitted among bird species and very rarely infects humans. The current reference to Avian flu is to a specifically deadly disease, killing nearly 100% of birds that become infected. This type is often identified by its serotype, H5N1, and is the current viral strain that is causing severe illness and death in humans in the Southeast Asia region. Avian flu (H5N1) may be the next pandemic flu.

**Case-fatality rate:** an epidemiological term that describes the lethality of a particular virus, looking at the number of dead from those infected.

**Contagious:** the ability for an infectious agent to be spread from one person to another.

**Endemic:** a illness or disease that occurs frequently and at sustained levels within a given geographic region. Examples of endemic diseases include hypertension and asthma.

**Epidemic:** a grouping of symptoms or specific diseases that are clearly above the normal amount of illness typically seen in a population. Examples include: Foodborne illness outbreaks or seasonal influenza outbreaks in certain sections of the Country.

**Epidemiology:** the branch of science that studies where and when diseases occur and how they are transmitted through a population.

**H5N1:** a severe strain of avian influenza (bird flu) that has killed millions of birds, especially poultry, in dozens of countries and has resulted in some human illness and death.

**Host:** an organism that is infected with an infectious agent. For example, a person (the host) infected with an influenza virus.

**Incubation period:** the time between exposure to an infectious agent and when symptoms of illness begin. This is the time when the microorganism is multiplying in the body.

**Influenza:** the flu is a contagious respiratory illness caused by influenza viruses. It can cause mild to severe illness, and at times can lead to death.

**Isolation:** separating people who are sick with a contagious disease from those who are healthy. This protects healthy people from getting sick.

**N95 mask/respirator:** a device placed over the nose and mouth to filter out particles or fumes from inhaled air. A N95 mask that is NIOSH certified provides respiratory protection for the wearer by its filter efficiency of 95%. It is not resistant to oil and the 95% refers to particulate aerosols greater larger than 0.3 micron.

**Pandemic:** a disease that spreads around the world. An example is the Spanish Flu pandemic of 1918.

**Pandemic Flu:** refers to the new virus that no one has immunity against and is spread world-wide. The Pandemic Flu strain has a potential to cause more sick in all age groups and trigger more cases of serious illness and death in a very short time period.

**Pathogenic:** the ability of the infectious agent to cause disease by overcoming the body's immune system.

**Personal protective equipment (PPE):** gear (clothing or devices) that is worn to help isolate a person from direct exposure to a hazardous material or situation. This can include protective clothing, respiratory protection and eye protection. For example, a healthcare worker would wear gloves and a mask to avoid infection when treating patients who have a contagious disease.

**Quarantine:** separating and restricting the movement of people who have been exposed to a contagious disease, but who are not yet ill. Quarantine stops the spread of infectious diseases to other people.

**Seasonal flu:** the regular, annual occurrence of influenza in the world. Vaccines are available for this disease.

**Snow days:** in the context of influenza pandemic, days when schools and other public places or gatherings will be closed to limit person to person contact and reduce the spread of germs.

**Social distancing:** the strategy of limiting person to person contact to reduce the spread of germs. For instance, staying home from work and avoiding public places.

**Surge capacity:** the ability to handle a much greater amount of work in a very short period of time.

**Virulent (virulence):** the severity of symptoms caused by an infectious agent.

**Virus:** the smallest of all infectious agents. Viruses are unable to multiply on their own, so they must infect host cells in order to multiply. Viruses cannot be treated with antibiotics