

NOTE: This plan is being released with the understanding that many of the supporting plans and guidance documents from other organizations are still in draft form (i.e. Ohio Department of Health Pandemic Plan, the Ohio SNS Plan, and the Ohio Infection Control Practices (including isolation and quarantine) have not been released for publication as of March 2006). Other changes are being made at the local, state, and federal levels by health, public safety, and first responders as the United States gears up for a possible pandemic. Questions and comments can be addressed to Sharon Schaeffer RN, Epidemiologist and Public Health Preparedness Coordinator, Erie County General Health District, 420 Superior Street, Sandusky, Ohio 44870 (419)626-5623/ sschaeffer@eriecohealthohio.org.

Erie County General Health District Pandemic Influenza Preparedness and Response Plan

March 2006



INDEX

Acronyms	4
Glossary	7
Introduction	8
Influenza Background	
Pandemic Influenza	
Federal Roles in Pandemic Influenza Preparedness and Response	
State Roles in Pandemic Influenza Preparedness and Response	
Local Roles in Pandemic Influenza Preparedness and Response	
Organization of the ECDH Pandemic Influenza Preparedness and Response Plan	
Interpandemic Period – Phase 1	11
Interpandemic Period – Phase 2	11
Establish Command, Control, and Management Procedures	
Surveillance	
Emergency Response	
Communications	
Vaccine Delivery	
Antivirals	
Pandemic Alert Period – Phase 3 and Phase 4	17
Establish Command, Control, and Management Procedures	
Surveillance	
Communications	
Vaccine Delivery	
Antivirals	
Pandemic Alert Period – Phase 5	18
Establish Command, Control, and Management Procedures	
Surveillance	
Emergency Response	
Communications	
Vaccine Delivery	
Antivirals	
Pandemic Period – Phase 6	19
Establish Command, Control, and Management Procedures	
Surveillance	
Emergency Response	
Communications	
Vaccine Delivery	
Antivirals	
Post-pandemic Period	20
Appendix A – Community Containment Measures Including Non-Hospital Isolation and Quarantine and Home Care	21
Appendix B – Internet Sites Referenced	23
Appendix C – ECHD Priority Prophylactic Treatment Recommendations	24
Appendix D - (DRAFT) Resolution for Quarantine Authority ECHD	25
Appendix E - CDC Fact Sheets: Isolation and Quarantine	
Appendix F - Public Health Incident Command System	

TERMS AND ACRONYMS

AAP	American Academy of Pediatrics
ACEP	American Academy of Emergency Physicians
ACF	Alternate Care Facility
ACIP	Advisory Committee on Immunization Practices
BEH	ODH, Division of Prevention, Bureau of Environmental Health
BIDC	ODH, Division of Prevention, Bureau of Infectious Disease Control
BPHL	ODH, Division of Prevention, Bureau of Public Health Preparedness
BSL	Biosecurity Level
CDC	Centers for Disease Control and Prevention
CERC	Crisis/Emergency Risk Communications
CMS	Centers for Medicare and Medicaid Services (USDHHS)
DAS	Ohio Department of Administrative Services
DHHS	(US) Department of Health and Human Services
DMORT	Disaster Mortuary Operations Response Team
ECHD	Erie County Health Department
EDRS	Electronic Death Registry System
EMA	Emergency Management Agency
EMS	Emergency Medical Service
EMT	Emergency Medical Technician
EOC	Emergency Operations Center
EOP	Emergency Operations Plan
ESF	Emergency Support Function
FDA	Food and Drug Administration
FDMAOH	Funeral Directors and Morticians Association of Ohio
FEMA	Federal Emergency Management Agency
GETS	Government Emergency Telecommunications Service
GIS	Global Information System
HAN	Health Alert Network
ICP	Infection Control Practitioner
ICS	Incident Command System
ILI	Influenza-like illness
IND	Investigational New Drug
JIC	Joint Information Center
LHD	Local Health District
LRN	Laboratory Response Network

LTCF	Long Term Care Facility
MARCS	Multi-Agency Radio Communication System
MRT	Mortuary Response Team (Ohio)
NDMS	National Disaster Medical System
NIMS	National Incident Management System
NRP	National Response Plan
NREVSS	National Respiratory and Enteric Virus Surveillance System
OAC	Ohio Administrative Code
OCC	Ohio Citizens Corps
OCSC	Ohio Community Service Council
ODA	Ohio Department of Agriculture
ODH	Ohio Department of Health
ODHL	Ohio Department of Health Laboratory
ODNR	Ohio Department of Natural Resources
ODPS	Ohio Department of Public Safety
OEMA	Ohio Emergency Management Agency
OEPA	Ohio Environmental Protection Agency
OHA	Ohio Hospital Association
OLRNS	Ohio Laboratory Response Network System
OPHCS	Ohio Public Health Communication System
ORC	Ohio Revised Code
OSMA	Ohio State Medical Association
PHCC	Public Health Command Center
PHP&R	Public Health Preparedness and Response
PHRST	Public Health Regional Surveillance Team
PHT	Public Health Team
PICC	Pandemic Influenza Coordinating Committee (of the SOSTF)
PIO	Public Information Officer
PIPRP	Public Health Preparedness and Response Plan (ODH)
POD	Point of Dispensing Site
PPE	Personal Protective Equipment
RODS	Real-time Outbreak Disease Surveillance
RSS	Receipt, Store and Stage
IMPACT/SIIS	Immunization Registry
SEOC	State Emergency Operations Center
SITREP	Situation Report (EOC)
SMG	Strategic Management Group (ODH)
SNS	Strategic National Stockpile

SOP	Standard Operating Procedure
SOSTF	State of Ohio Security Task Force
USDA	United States Department of Agriculture
USPHS	United States Public Health Service
VAERS	Vaccine Adverse Events Reporting System
VIS	Vaccine Information Statement
VOAD	Voluntary Organizations Active in Disasters
WHO	World Health Organization
WPS	Wireless Priority Service

DRAFT

GLOSSARY

Characterization	Identification of the strain of an influenza virus such as A/Panama
DMORT	A coordinated effort of forensic experts and mortuary personnel to effectively handle a mass fatality disaster
Endemic	A disease that is continually present in a community or a region.
Enzootic	Affecting or peculiar to animals of a specific geographic area.
Epidemic	The occurrence of a disease in a community or region clearly in excess of normal expectations
Epizootic	Affecting a large number of animals at the same time within a particular region or geographic area.
Health Alert Network	An Internet based program used to communicate health and emergency messages
Influenza-like illness (ILI)	The presence of fever >100° F, with a cough and/or sore throat
JIC	A central location for involved agencies to coordinate public information activities and a forum for news media representatives to receive disaster or emergency information
Novel virus	A virus rarely, or not previously known to infect humans
Pandemic	The occurrence of a disease in excess of normal expectations in extensive regions, countries and continents
Strategic National Stockpile (SNS)	A federal cache of medical supplies and equipment to be used in emergency and disaster situations
Subtype	Identification of influenza A viruses according to the hemagglutinin (H) and neuraminidase (N) components of the virus, such as H1N1 or H3N2
Surveillance	The collection, analysis and dissemination of data
Syndromic	Occurring as part of a complex of signs and symptoms suggesting the existence of an undesirable condition or disease

INTRODUCTION

Influenza viruses are unique in their ability to cause sudden illness among humans in all age groups on a global scale. The importance of influenza viruses as biologic threats is due to a number of factors including the high degree of transmissibility, the presence of a vast reservoir of novel variants (primarily aquatic birds), and the unusual properties of the viral genome. The infamous “Spanish flu” of 1918-19 was responsible for more than 20 million deaths worldwide, primarily among young adults. Mortality rates associated with recent pandemics of 1957 and 1968 were reduced in part by the use of antibiotic therapy for secondary bacterial infections and aggressive supportive care of infected patients. However, these later pandemics were associated with high rates of morbidity and social disruption. The Centers for Disease Control and Prevention (CDC) estimates the economic loss associated with the next pandemic will be in the billions of dollars.

Experts agree, an influenza pandemic is inevitable. To prepare for the next pandemic, the Erie County Health Department (ECHD), in cooperation with state and local organizations and partners, has developed this ECHD Pandemic Influenza Preparedness and Response Plan which provides an overview of strategies to reduce pandemic influenza-related morbidity, mortality, and social disruption in the county.

Influenza Background

Influenza is an illness caused by viruses that infect the respiratory tract of humans. Signs and symptoms of influenza infection include rapid onset of high fever, chills, sore throat, runny nose, severe headache, nonproductive cough, and intense body aches followed by extreme fatigue. Influenza is a highly contagious illness and can be spread easily from one person to another. It is spread through contact with droplets from the nose and throat of an infected person during coughing and sneezing. The period between exposure to the virus and the onset of illness is usually one to five days. Influenza is not an endemic disease, but in the Northern Hemisphere annual epidemics usually occur from December to April.

There are two types of influenza viruses which cause significant disease in humans: type A and type B. Influenza A viruses are composed of two major antigenic structures essential to the production of influenza vaccines and the induction of immunity: hemagglutinin (H) and neuraminidase (N). These two components define the virus subtype. Influenza A viruses are unique because they can infect both humans and animals and are usually associated with more severe illness than type B influenza viruses. Most influenza A viruses are considered to be avian in origin. Worldwide avian influenza control efforts are coordinated by the World Organization for Animal Health (OIE).

Influenza viruses mutate frequently resulting in an antigenic drift or a shift. Antigenic drift is a minor change caused by mutations that result in the emergence of a new strain within a subtype. Drifts can occur in both type A and B influenza viruses. Antigenic shift is a major change caused by genetic recombination that results in the emergence of a novel virus strain that has not previously infected humans. Antigenic shifts occur only in influenza type A viruses; these changes can lead to an influenza pandemic.

Pandemic Influenza

Pandemic influenza is a unique public health emergency. No one knows when the next influenza pandemic will occur. However, when it does occur it will be with little warning. Since the novel virus may be identified in any region of the world, experts believe that we will have between one to six months from the identification of a novel influenza virus to the time that widespread outbreaks begin to occur in the United States. Outbreaks are expected to occur simultaneously throughout much of the nation, preventing reallocation of human and material resources.

An influenza pandemic will occur in multiple waves. The effect of the initial wave on individual communities will be relatively prolonged (as long as six to eight weeks) when compared to the minutes-to-hours observed in most natural disasters. Due to the prolonged nature of a pandemic influenza event, the World Health Organization (WHO) and the CDC have defined phases of a pandemic in order to facilitate coordinated plans (Appendix A). Phase determination in the United States will be the responsibility of the WHO and the CDC.

The following are assumptions that provide a basis for preparedness activities pertaining to pandemic influenza:

- Influenza pandemics are expected, but unpredictable and arrive with very little warning.
- Outbreaks can be expected to occur simultaneously throughout much of the U.S., preventing shifts in human and material resources that usually occur in the response to other disasters.
 - Localities should be prepared to rely on their own resources to respond.
 - As with many public health emergencies the effect of influenza on individual communities will be relatively prolonged (weeks to months) in comparison with other types of disasters.
- Because of the high degree of infectiousness of pandemic influenza, the number of persons affected in the US will be high, it is estimated that:
 - Up to 200 million persons will become infected
 - Between 38 million and 89 million will be clinically ill
 - Between 18 million and 42 million will require outpatient care
 - Between 314,000 and 733,000 will require hospitalization
 - Between 89,000 and 207,000 will die
- Health care workers and other first responders may be at higher risk of exposure and illness than the general population, further straining the health care system.
- Effective prevention and therapeutic measures, including vaccine and antiviral agents, will be delayed and in short supply.
- Widespread illness in the community could increase the likelihood of sudden and potentially significant shortages of personnel in other sectors that provide critical public safety services.

Federal Roles in Pandemic Influenza Preparedness and Response

- Surveillance in the U.S. and globally.
- Epidemiological investigation in the U.S. and globally.
- Development and use of diagnostic laboratory tests and reagents.
- Development of reference strains and reagents for vaccines.
- Vaccine evaluation and licensure.
- Determination of populations at highest risk and strategies for vaccination and antiviral use.
- Assessment of measures to decrease transmission (such as travel restrictions, isolation and quarantine).
- Deployment of federally purchased vaccine.
- Deployment of antiviral agents in the Strategic National Stockpile.
- Evaluation of the efficacy of response measures.

- Deployment of the Commissioned Corps Readiness Force and Epidemic Intelligence Service officers.
- Medical and public health communications.

State Roles in Pandemic Influenza Preparedness and Response

- Identification of public and private sector partners needed for effective planning and response.
- Development of key components of the pandemic influenza preparedness plan; surveillance, distribution of vaccine and antivirals, and communications.
- Integration of pandemic influenza planning with other planning activities conducted at the state and local levels.
- Coordination with local areas to ensure development of local plans as called for by the state plan and provision of resources, such as templates to assist in the planning process.
- Development of data management systems needed to implement components of the plan.
- Assistance to local areas in exercising plans.
- Participation with local areas in exercising their plans.
- Coordination with adjoining jurisdictions.
- Training state staff on roles and responsibilities identified in this plan

Local Roles in Pandemic Influenza Preparedness and Response

- Identification of public and private sector partners needed for effective planning and response.
- Coordination with adjoining jurisdictions.
- Maintain and exercise the ESF 8 component of the local response plan.
- Continue to emphasize annual influenza vaccine and the use of pneumococcal vaccine during the preparation phases of the pandemic.
- Identify priority groups for vaccination.
- Develop a system to estimate the number of persons in priority groups for vaccination.
- Assure the security of influenza vaccine during storage and delivery when it becomes available. Planning for civil unrest due to pandemic should also be considered.
- Ensure coordination with local emergency management coordinators, hospitals, and special populations in their area.
- Maintain media relations at the local JIC.
- Maintain a 24/7 contact list of key health department staff, local partners, and the media.

Organization of the ECHD Pandemic Influenza Preparedness and Response Plan

This plan was developed using the CDC Planning Guide for State and Local Officials (Draft), which was based on the WHO planning phases that were defined in 1999. The ECHD plan is organized according to the World Health Organization's Pandemic Phases (2005). The following functions are described in each applicable phase: Establish Command, Control, and Management Procedures, Surveillance, Communication, Vaccine Delivery, Emergency Response, and Antivirals.

The World Health Organization recently released the "WHO Global Influenza Preparedness Plan" which redefines the phases that were identified in 1999. The Ohio Department of Health has revised its draft document, the "ODH Pandemic Influenza Preparedness and Response Plan (PIPRP)" to reflect these changes. The ECHD Pandemic Influenza Preparedness and Response Plan must be considered a "living document" that will be updated when new information and guidelines from the WHO, CDC, and ODH are available. At any time during the stages, the activities may also be changed or cancelled by the Incident Commander to meet the needs of the current situation.

All state and local governments are required to have an emergency management plan, which addresses all hazards. However, pandemic influenza is likely to pose unique challenges that may not be addressed in current emergency management plans. Because of these challenges that will arise, emergency management plans will incorporate the pandemic influenza elements in the health and medical annexes. Some of the relevant issues that must be addressed in these plans include:

- Medical services and healthcare workers may be overwhelmed during the influenza pandemic.
- Healthcare workers may not be able to provide essential care to all patients in need.
- Unlike the typical disaster, because of increased exposure to the virus, essential community services personnel such as healthcare personnel, police, firefighters, emergency medical technologists, and other first responders, may be more likely to be affected by influenza than the general public.
- Unlike typical natural disasters, during which critical components of the physical infrastructure may be threatened or destroyed, an influenza pandemic may also pose significant threats to the human infrastructure responsible for critical community services. This threat will be due in part to widespread absenteeism in the workforce. Significant decreases in the workforce could impact distribution of food, home meal deliveries, day care, garbage collection and other critical services.
- Work with veterinary and other animal health partners in veterinary components of pandemic planning and response.

The following information is an overview of the Pandemic Influenza Phases as determined by the WHO in 2005. Included are expected responses/actions of the ECHD.

Interpandemic 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.

Interpandemic Period - 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.

The distinction between phase 1 and 2 is based on the risk of human infection or disease resulting from circulating strains in animals. The distinction depends on various factors and their relative importance according to current scientific knowledge. Factors may include: pathogenicity of the virus in animals and humans; occurrence of influenza in domesticated animals and livestock or only in wildlife; whether the virus is enzootic or epizootic, geographically localized or widespread; other information from the viral genome; and/or other scientific information.

ESTABLISH COMMAND, CONTROL, AND MANAGEMENT PROCEDURES

ECHD has adopted the Incident Command System and the National Incident Management System (NIMS) for responding to disasters and emergencies (Executive Order 05-03). The NIMS document was published in March 2004 and the National Response Plan (NRP) became finalized in December 2004. State and local agency plans must include NIMS-compliant activities and to align with the NRP.

The Erie County Health Commissioner will lead the local response to pandemic influenza or any other communicable disease emergency in Erie County.

SURVEILLANCE

Influenza viruses have constantly changing antigenic properties. Surveillance for pandemic influenza must include both virologic surveillance, in which influenza viruses are isolated for antigenic and genetic analysis, and disease surveillance, in which the epidemiologic features and clinical impact of new variants are assessed. The goals of influenza surveillance are to detect the earliest appearance of a novel influenza virus in Erie County and to describe the epidemiologic features of novel virus circulation.

Since most influenza A viruses are avian in origin it is essential that ECHD works with the Ohio Department of Agriculture (ODA) and the United States Department of Agriculture (USDA) in monitoring circulating animal viruses, especially the highly pathogenic avian influenza.

Virologic Surveillance: Each week, approximately 75 U.S. collaborating laboratories that are part of the World Health Organization's Influenza Surveillance Network and 50 National Respiratory and Enteric Virus Surveillance System laboratories report the number of clinical specimens tested for influenza and the number of positive results by virus type (A or B) and subtype (A/H1, A/H3N2 or not subtyped).

Surveillance for influenza-like illness (ILI): Approximately 1,100 sentinel health care providers/clinics located in 50 states regularly report the number of patient visits for ILI by age group and the total number of patient visits each week during the normal influenza season.

Surveillance for influenza and pneumonia deaths: The Vital Statistics Offices of 122 U.S. cities report each week the percentage of total deaths that may be influenza-related.

State and territorial epidemiologists assess influenza activity levels in their respective states each week and reports it as "widespread", "regional", "local", "sporadic" or "no activity."

During the Inter-Pandemic Phase, ODH will maintain Ohio's current influenza surveillance activities, which include:

- A state public health laboratory that:
 - Isolates and subtypes influenza viruses during the influenza season
 - Maintains the capability of isolating and sub-typing influenza viruses year-round, and reports these data weekly to CDC.
 - Continues to perform viral culture in the face of increasing use of rapid influenza diagnostic tests and PCR tests.
 - Is transmitting their influenza data (positives and negatives) electronically to CDC via the Public Health Laboratory Information System.
 - Is actively involved in contingency planning for surge capacity (staffing and reporting) and safety issues

- An influenza sentinel provider program with at least the minimum number of health care providers (1 per 250,000 persons or a minimum of 10 providers in states with smaller populations) that report their weekly data to CDC via the Internet year-round. These providers are encouraged to send specimens collected from patients with ILI at the beginning, middle, and end of the normal season to the state laboratory for viral culture at no charge to the provider or patient.

- An active state Influenza Surveillance Coordinator who:
 - Monitors sentinel provider data weekly for completeness and/or errors.
 - Provides feedback and maintains contact with sentinel providers weekly to encourage reporting and follow-up on unusual reports.
 - Contributes to state pandemic planning issues and activities.
 - Maintains a strong working relationship with the local health jurisdictions in Ohio.

- Encourages sentinel providers to submit specimens for viral culture to the state laboratory.
- Conducts a weekly assessment of overall influenza activity level in the state during the normal flu season and reports the data to the CDC. This information is currently reported to local health districts via the Wednesday Local Health Department conference call and via OPHCS.

EMERGENCY RESPONSE

Emergency response, including maintenance of critical services and surge capacity issues in the health care system, must be addressed on both the State and Local level. Firelands Regional Medical Center, located in Erie County, is working with regional partners to determine best practices and develop consistency in surge capacity plans within the region.

If hospitals within the Northwest Ohio Region are full, alternate care facilities will be established. Regional planning for this effort is ongoing. The Northwest Ohio Regional RMRS is identifying facilities which may be used for inpatient or outpatient care. Establishing health care facilities in nontraditional sites is a significant task that requires that staffing, equipment, infection control, legal, and other issues be addressed.

Home health care agencies will play an important role, given the potentially high number of ill persons. In the event of a pandemic, the quality of material care (such as nursing, ventilators, nutrition, and hydration) will deteriorate. Family members will be expected and needed to provide care to family members that are unable to be hospitalized. Instructions for home (family) care can be found in Appendix A.

An influenza pandemic may pose significant threats to the human infrastructure responsible for critical community services due to widespread absenteeism and exhaustion in the workforce. Examples of such services (and personnel) in non-health sectors might include highly specialized workers in the public safety, utility, transportation and food service industries, and will likely vary from jurisdiction to jurisdiction. The CDC has formed a work group to further define the possible priority groups that should receive prophylaxis. Once these groups are identified, the ECHD will consult with stakeholders to adapt the CDC/ODH recommendations to Erie county. Current priority group recommendations used for pharmaceutical caches can be found in Appendix C.

Emergency Response Activities during the Inter-Pandemic Phase include:

- Identifying issues specific to pandemic influenza
- Meeting with Public Health Preparedness staff and other emergency planners
- Ensuring that specific challenges posed by an influenza pandemic are addressed in emergency response plans
- Reviewing pertinent legal authorities including:
 - Isolation and quarantine laws
 - Laws and procedures for closing businesses or schools and suspending public meetings during a declared state of emergency
 - Medical volunteer licensure and liability
 - Compensation laws for in state, out of state, and returning retired medical and nonmedical volunteers.

COMMUNICATIONS

In an emergency, accurate, consistent and timely messages are key in notifying and educating the public, notifying and facilitating movement of emergency staff to their assigned duties and stations, and in activating the emergency plan as intended. The following delineates communication-related issues that pertain to pandemic influenza:

- Assuring adequate communication systems will be a joint responsibility of federal, state and local agencies.

- During a pandemic the public will likely encounter some unreliable and possibly false information in the media and on the Internet. ECHD will communicate accurate, reliable information regarding the influenza pandemic.
- Mechanisms for communication with the public will vary depending on the phase of the pandemic and its impact on communities.
- ECHD will continually strive to communicate with all essential partners realizing that this will be difficult during the pandemic.

CDC will make a number of materials available before and during an influenza pandemic, including:

- Basic communication materials (such as question and answer sheets and fact sheets) on influenza, influenza vaccine, anti-viral agents, and other relevant topics in various languages.
- General preventive measures such as “do’s and don’ts” for the general public.
- Information and guidelines for health care providers.
- Training modules (Web-based, printed, and video).
- Presentations, slide sets, videos, and documentaries.
- Symposia on surveillance, treatment and prophylaxis.

Because of anticipated shortages of both vaccine and antivirals, planning messages to inform the population about availability, as well as addressing the rationale for priority groups and measures to be taken until such are available will be critical. Other important topics include:

- Basic information about influenza (including symptoms and transmission)
- Information about the course of the pandemic (contagiousness, geographic spread, case counts)
- Information about which symptoms should prompt seeking medical attention and which symptoms should be managed at home
- Information about school and business closures and suspended public meetings
- Information about travel restrictions as well as isolation and quarantine laws.

ECDH will:

- Establish lines of communication and define ECHD staff roles and responsibilities clearly to facilitate the best possible communication with partners.
- Exercise the ECHD Crisis Communications plan.
- Regularly distribute informational updates to all appropriate partners.
- Maintain the list of media spokespersons and contact information from each state and local agency involved in the response efforts. (found in the ECHD Crisis Communication Plan)
- Coordinate with ODH to provide information to the media via the state Emergency Operations Center/Joint Public Information Center when activated.
- Regularly update and maintain the ECHD Web site with information.
- Develop materials and messages regarding pandemic flu and ensure distribution to Erie County residents and business partners.
- Plan responses to anticipated questions.
- Educate public health officials, elected officials, and the media about what information will and will not be available during a pandemic.
- Review CDC materials and adapt and revise as needed.

VACCINE DELIVERY

Vaccine administration is likely to serve as an important preventive strategy during the next influenza pandemic. Unlike annual production of influenza vaccine, wherein strains are selected in the spring,

leading to vaccine distribution in the late summer, a pandemic strain could be detected at any time.

Current manufacturing procedures may require six to eight months before large amounts of vaccine are available for distribution.

Contrasts between delivery of pandemic vaccine and the annual influenza vaccine include the following:

- The target population will be modified, possibly to include the entire U.S. population.
- It is impossible to predict how quickly the novel virus would arrive in the U.S. Because of the six to eight month period to produce a vaccine, it is anticipated that demand for vaccine will be greater than the supply early in the course of the pandemic. It is also possible that no vaccine will be available.
- Once vaccine is available, it will need to be distributed as quickly as possible
- Immunologic responses following initial vaccination of serologically negative individuals is poor and represents a priming of the immune system. The emergence of a pandemic strain with new hemagglutinin and or neuraminidase antigens will likely require a second (booster) dose of vaccine two to four weeks after the first dose is given.

A final decision regarding the degree of federal vaccine purchase during a pandemic may not be made until the pandemic vaccine is being produced. The ODH plan for delivery and administration of vaccine may be adapted to address many possible scenarios, including; complete federal purchase and distribution to states, partial federal purchase with distribution to states, and minimal federal purchase (similar to the current annual influenza vaccination program). Currently influenza vaccine administration in Erie County is primarily administered through a combination of public and private sector. Coordination with and education of the private sector is key in planning.

Because a relative shortage of vaccine is expected early in the pandemic, vaccine recipients will be prioritized. Recommendations will be made at the national level, which will be adapted by ODH and followed on the local level. ECHD recognizes the priority prophylaxis recipient groups identified by ODH and may follow the same prioritization for pandemic influenza. See Appendix C for the current priority group recommendations for Erie County as identified by ODH.

Eventually, it is assumed that sufficient vaccine will be available for mass vaccination of the population. Local health departments continue to conduct planning activities with regional partners and ODH. This planning will include the design of a regional template for receipt and distribution of the Strategic National Stockpile (SNS) based on the guidance document written by ODH.

The success of the pandemic influenza vaccination program will be determined in large part by the strength of state and local vaccination programs during the Inter-Pandemic Phase for three main reasons: (1) increased acceptance of and public confidence in the vaccine; (2) stimulation of vaccine production by manufacturers to meet demand; and (3) strengthening of distribution channels.

During the Inter-Pandemic Phase, efforts to increase pneumococcal polysaccharide vaccination (which can reduce the incidence of invasive pneumococcal disease secondary to influenza) is recommended and emphasized. Because large-scale pneumococcal vaccination may not be feasible once a pandemic alert has occurred, the Inter-Pandemic Phase is the ideal time to deliver this preventive measure.

Activities that will be conducted during the Inter-Pandemic Phase include:

- Enhance influenza vaccination coverage levels in traditional high-risk groups, especially subgroups in which coverage levels are particularly low (e.g. minorities and persons younger than 65 years of age with chronic underlying medical conditions). Increasing routine, annual vaccination coverage levels in these groups will further reduce the annual toll of influenza and will facilitate access to these populations when the pandemic occurs.
- Enhance pneumococcal vaccination coverage levels in traditional high-risk groups to reduce the incidence and severity of secondary bacterial pneumonia.

- Review, modify and exercise the SNS plans in accordance with ODH guidelines.
- Ensure that state laws continue to allow for important elements of vaccination plans.
- Ensure that contingency plans have been considered for emergency distribution of unlicensed vaccines using emergency Investigational New Drug (IND) provisions.
- Maintain the IMPACT/SIIS Immunization Registry to track vaccine and facilitate reminder notification to track the administration of two doses per person (if recommended) and to track adverse events.

ANTIVIRALS

Because vaccine will likely not be available when the novel virus first affects communities, antivirals may play an important role in the control of influenza, especially – but not only – during the period before vaccine is available. Existing production capacity for influenza antiviral drugs is less than would be needed to provide prophylaxis or treatment for the entire population and the current supply of antivirals in the Strategic National Stockpile is limited. Similarly to planning for vaccine distribution, it is important to consider planning for different scenarios, including:

- Federal purchase of the existing supply and distribution to states.
- State purchase of antivirals using emergency funds.
- Federal stockpile with distribution to states.
- Status quo (majority of drugs available in private sector).

Prophylaxis

The amantadanes, amantadine and rimantadine, are best suited for prophylaxis (preventive care) because of the high potential for viral resistance to emerge during treatment, the potential supply, and their cost. However, studies have shown an increased resistance to amantadine in circulating strains of highly pathogenic avian influenza. In addition, the central nervous system side effects, although substantially less with rimantadine than amantadine, may preclude the use of these drugs for certain target groups (e.g. commercial airline pilots). The neuraminidase inhibitor oseltamivir is an alternative.

Identification of influenza within a community (based upon either isolation of the pandemic strain or an increase in ILI) will be the trigger for initiating prophylaxis. In order to be effective, prophylaxis must be continued until the exposure has ceased. Use of antivirals for prophylaxis would only be indicated if the outbreak was very limited in scope.

As with decisions about vaccine use, recommendations for priority groups for antivirals will be established at the national and state levels, and ECHD will follow the guidance as set forth by the ODH.

Therapy

Neuraminidase inhibitors (oseltamivir and zanamivir) should be used for therapy because of the potential for viral resistance when adamantines are used for therapy. Therapy is effective at decreasing severe complications and reducing hospitalizations only if offered within two days of developing symptoms. Distribution of drugs for therapy is a challenge given the limited amount available, the large number of points of care, and the need to initiate the course of treatment within 48 hours of onset of symptoms.

Antivirals from the SNS will be distributed to points of care utilizing the distribution system as detailed in the ODH SNS plan. The ODH will determine whether controls for dispensing (such as positive rapid test) will be required. They will also provide guidelines on appropriate use of antivirals that are distributed. Public education will be very important given the scarcity of this resource.

Prioritizing within priority groups will be necessary given the limited supply. For antivirals purchased
4/6/20065/30/2006

with public funds, the ODH will be responsible for determining local distribution of the antivirals in collaboration with the private sector. If there is no state or federal purchase, the state and local role will largely be one of public and provider education regarding appropriate use of antivirals. As with vaccine, it will be critical to clearly communicate with the public about the rationale for priority groups. Coordination with and education of the private sector is a key component of the plan.

During the Inter-Pandemic Phase, ECHD will continue to:

- Quantify high-priority populations for therapy, and develop drug distribution contingency plans for the different possible scenarios
- Educate the medical community and the public regarding appropriate prescribing information during a pandemic event.
- Continue to coordinate with regional and state partners
- Continue to maintain the Immunization Registry to track antiviral supplies, distribution, use, and adverse event tracking.

Pandemic Alert Period– Phase 3 and Phase 4

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.

The 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 must 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); other information from the viral genome; and/or other scientific information.

ESTABLISH COMMAND, CONTROL, AND MANAGEMENT PROCEDURES

The ECHD Health Commissioner will meet with the management staff and appropriate stakeholders to review major elements of the plan and assess and evaluate the state and local levels of preparedness. Changes to the plan will be made as needed.

SURVEILLANCE

The Centers for Disease Control and Prevention (CDC) continuously monitors surveillance data reported nationally and frequently communicates with public health colleagues around the world so that novel viruses are detected and investigated as quickly as possible. If ODH is notified by CDC that a novel influenza virus has been identified, but efficient transmission of the virus from person-to-person is not yet established (that is, a novel virus alert), ODH will enhance inter-pandemic surveillance activities by:

- Increasing case detection among persons who recently traveled to the outbreak area and present with clinical illness possibly caused by influenza including pneumonia, acute respiratory distress syndrome, or other severe respiratory illness. Appropriate specimens will be collected to diagnose influenza infection. In some situations, if the novel influenza virus is a highly pathogenic avian strain, such as with the 2004 H5N1 influenza virus in Asia, local hospital laboratories should not attempt viral isolation because of the potential risk that the strain could spread. Specimens will be sent to the ODH lab or to CDC where isolation and subtyping can be done under more stringent bio-safety conditions. Influenza infection can be diagnosed locally using antigen detection, immunofluorescence, or PCR. CDC will provide guidance appropriate to each specific novel virus alert.
- Ensuring that all inter-pandemic influenza surveillance activities are underway regardless of

the time of year and that all participating laboratories and sentinel providers are reporting data to CDC each week.

- Subtyping all influenza A viruses identified in clinical specimens and, as always, reporting any influenza A viruses that cannot be subtyped to CDC immediately. CDC will provide instructions on the safe handling of a potential novel influenza virus.
- Obtaining reagents from CDC (when they become available) to detect and identify the novel strain.
- Monitoring and instituting recommendations from CDC for any additional surveillance activities that should be undertaken given the specific circumstances.
- Review contingency plans for further enhancing influenza surveillance if efficient person-to-person transmission of the novel virus is confirmed.

EMERGENCY RESPONSE

The ECHD will continue with emergency response activities already underway. Institution of additional measures will be based on the guidance of the CDC and ODH.

COMMUNICATIONS

The Erie County Health Department Assistant Health Commissioner serves as the Public Information Officer (PIO) under the Incident Command System. The PIO and his or her staff maintain a system to effectively communicate with the public, healthcare professionals and other targeted audiences. This system is described in the ECHD Crisis Communications Plan and describes the following activities that would be conducted by the PIO and his or her staff:

- Review materials and revise as needed.
- Activate public hotline.
- Disseminate information to public and partners on an ongoing basis.
- Educate health partners, elected officials, community leaders, and the media about what information will and will not be available during a pandemic.
- Prepare spokespersons.
- Coordinate with regional public health in the Northwest district and ODH.

VACCINE DELIVERY

State and local health authorities will meet with appropriate partners and stakeholders and review major elements of the state and local SNS plans and operating guides. Plans will be developed on a regional basis and modified as needed to account for Erie County demographics. Updates, if any, will be made using guidance provided by the CDC and ODH.

ANTIVIRALS

ECHD staff will review the distribution and priority prophylaxis and treatment plans to ensure they are current with Ohio guidance. The medical community will be notified of the status of the plans and the availability of antivirals. ECHD will distribute guidelines to the medical community and conduct training for public health staff involved in antiviral distribution using ODH Mass Clinic protocols and procedures.

Pandemic Alert Period – Phase 5

Phase 5 – Larger cluster(s) but human-to-human spread is still localized, suggesting that the virus is becoming increasingly better adapted to humans, but may not yet be fully transmissible (substantial pandemic risk).

ESTABLISH COMMAND, CONTROL, AND MANAGEMENT PROCEDURES

- The ECHD Health Commissioner will convene the management staff and partners and review the implementation of the Mass Distribution plan.
- Active surveillance will be initiated.
- The Crisis Communications Plan will be activated, if not activated previously.
- Begin vaccine and antiviral distribution (if available) in accordance with ODH guidance.
- Notify emergency management of the need for additional resources.
- Document expenses of pandemic response.

SURVEILLANCE

If efficient person-to-person transmission of a novel influenza virus is confirmed, the following additional surveillance enhancements will be made:

- Assess the need to screen travelers arriving in the U.S. from affected countries.
- Investigate the epidemiology of all early cases either originating in the U.S. or that are imported into the country.
- At hospitals and emergency departments, increase laboratory diagnosis of influenza, including use of rapid antigen detection tests, for persons with compatible clinical syndromes, particularly those who may have had recent exposure at the site of an outbreak. ODH and the Laboratory Response Network (LRN) will coordinate with the CDC, and under their guidance, assist with triage of specimens for testing and for choosing which isolates to send to CDC.

COMMUNICATIONS

Once sustained human-to-human transmission is confirmed anywhere in the world, the Public Information staff will:

- Review major elements of the communications plan with partners and stakeholders.
- Disseminate information to public, partners and the media on an ongoing basis.
- Monitor media coverage and address misinformation.
- Coordinate with regional partners and the ODH media staff.

VACCINE DELIVERY /ANTIVIRALS

In anticipation that human transmission will be confirmed, ECHD will follow the guidance of the ODH and ensure that human resources and logistics are in place to begin vaccination or antiviral distribution as determined by the CDC and ODH. Just in time training will be conducted for staff as determined by the expected course of action (i.e. mass clinics, high risk groups, antivirals, vaccination)

Pandemic Period – Phase 6

Phase 6 – Pandemic phase: increased and sustained transmission in general population.

ESTABLISH COMMAND, CONTROL AND MANAGEMENT PROCEDURES

Once a pandemic alert has been issued, the ECHD Health Commissioner or his or her designee will activate the ECHD Response Room. (Room 81, Front Building)

Key activities that will be conducted include:

- Fully activate the response plan.
- Monitor staffing needs and recruit additional staff, if necessary.
- Ensure activities are coordinated with the health jurisdictions in the Northwest Region and the ODH.

- Document the expenses related to responding to a pandemic influenza outbreak.
- Ensure coordination of ODH Lab response activities with those of Firelands Regional Medical Center and the medical community.
- Coordinate activities with the Erie County EMA and open the EOC as necessary based on actual or anticipated response actions.

SURVEILLANCE

ECHD, in cooperation with the ODH, will:

- Conduct enhanced monitoring for antiviral resistance. Ensure that studies are in place to monitor vaccine effectiveness.
- Monitor health impacts including deaths and hospitalizations from influenza. Absenteeism will be measured in key industries.
- Assess the quality of surveillance and make recommendations for improvement during the period between pandemic waves and after the pandemic.
- Track adverse events to vaccine and treatment. The VAERS system will be used as indicated.

EMERGENCY RESPONSE

ECHD will implement elements of the response plans as indicated and specific plans for identified pandemic influenza issues, including continuous collection of data concerning medical and material supplies and their allocation to rapidly identify changing patterns of need and modify or redirect policy.

COMMUNICATIONS

- Using the communication systems identified in the Inter-Pandemic Phase, public information staff will update appropriate agencies and the public at least weekly and as needed regarding any new information regarding the novel virus and its impact.
- Materials and messages will be reviewed and modified as needed.
- When the EOC is activated, a Joint Information Center (JIC) will also be activated. JIC activities will be coordinated with local partners and stakeholders.

VACCINE DELIVERY /ANTIVIRALS

The Erie County Mass Clinic Plan, in coordination with the ODH, will be used to distribute vaccine and antivirals as available. See the current version of the Erie County Mass Clinic Plan for details.

Postpandemic Period

Return to interpandemic period activities.

APPENDIX A: COMMUNITY CONTAINMENT MEASURES INCLUDING NON-HOSPITAL ISOLATION AND QUARANTINE AND HOME CARE

Introduction

Pandemic influenza is a unique public health emergency and community disaster. It is considered a highly probable, if not inevitable event but no one can predict when it will occur. There may be little warning, but most experts agree that there will be one to six months between identification of a novel virus and widespread outbreaks in the U.S. Outbreaks will occur simultaneously throughout the U.S., and the effect on individual communities will last from six to eight weeks or more.

Pandemic influenza has the potential of affecting all elements of society. A large number of cases will add burden to hospitals and other health care systems already stressed with the normal day to day crises. Mortality is usually markedly increased. Health and medical personnel as well as other infrastructure workers, i.e. law enforcement, fire, public works, will not be immune. The effects on our communities could be staggering.

Immunization and respiratory hygiene are the best control measures available for influenza. Because no vaccine against a novel influenza strain will be available initially, and, it is likely that when vaccine becomes available, it will be in short supply, there are few community control measures available in a pandemic influenza event.

Home Care

Home care will be the predominant mode of care for most people infected with influenza. During the Pandemic Alert Period, individuals should discuss with their health care provider specific recommendations for both vaccination and chemoprophylaxis.

The single best way to prevent influenza is to get vaccinated each fall. In the absence of vaccine, however, there are other ways to protect against influenza. Four antiviral drugs (amantidine, rimantidine, oseltamivir and zanamivir) are approved and commercially available for use in treating influenza. Three of them (amantidine, rimantidine, and oseltamivir) are approved for prevention (chemoprophylaxis) against influenza. All of these drugs are prescription drugs, and a doctor should be consulted before their use.

The public should receive frequent and repetitive health communications that emphasize the simple steps that individuals and families should take to prevent the spread of respiratory illnesses like influenza:

1. Avoid close contact with people who are sick.
2. Wash hands often (hourly). If sick, stay at home and keep at least 3 feet away from others.
3. Cover mouth and nose with a tissue when coughing or sneezing.
4. Dispose of used tissue in appropriate waste receptacle.

Individuals who are cared for at home should:

1. Get plenty of rest.
2. Drink a lot of fluids.
3. Avoid using alcohol and tobacco.
4. Consider taking over-the-counter medications to relieve the symptoms of influenza (but never give aspirin to children or teenagers who have influenza-like symptoms).
5. Stay home and avoid contact with other people.
6. Cover nose and mouth with a tissue when you coughing or sneezing.
7. Dispose of used tissues in appropriate waste receptacle.

PANDEMIC INFLUENZA AND SCHOOLS

CDC Guidance: *Preventing the Spread of Influenza (the Flu) in Schools: Interim Guidance for School Administrators, Teachers and Staff, January 12, 2004*. Available at <http://www.cdc.gov/flu/school/>

Remind students and staff to clean their hands, and make sure they have the supplies to do so.

Frequent hand washing with soap and water will help protect students and staff from viruses. Wash hands for 15- 20 seconds (long enough to sing the "Happy Birthday" song twice.) Alcohol-based hand rubs may be used as an alternative. Students and staff should be advised to rub their hands thoroughly until dry. Work with your school's janitorial staff to ensure that restrooms are stocked with soap and paper towels or working hand dryers. Work with teachers to have a supply of alcohol-based hand-rub in each classroom.

Remind students and staff to cover noses and mouths when coughing or sneezing, and have tissues readily available.

Advise students and staff to cover their noses and mouths with a tissue when coughing or sneezing, and to dispose of used tissues in appropriate waste receptacles. Make sure that tissues are available in all classrooms and common areas, such as libraries or lunchrooms. If hands become contaminated with respiratory secretions while coughing or sneezing, perform hand hygiene as soon as possible.

Encourage sick students and staff to stay at home.

Sick students and staff should stay home from school until they have been without fever for 24 hours to help prevent spreading illness to others.

Work closely with your local health department if making plans regarding school closure.

Any decisions about closing a school due to increased influenza activity should be made in consultation with local and state health departments. It is unknown whether school closings are beneficial in controlling the spread of influenza.

In a pandemic influenza event, it may be necessary to close schools for administrative reasons (insufficient staff to meet the instructional and safety needs of students).

Appendix B Websites Referenced

Pandemic Flu Information

This official Pandemic Flu website of the U.S. government is managed by the Department of Health and Human Services. Includes links to the WHO and state health jurisdictions.

<http://pandemicflu.gov/>

CDC FluAid

FluAid is a test version of software created by programmers at the Centers for Disease Control and Prevention (CDC). It is designed to assist state and local level planners in preparing for the next influenza pandemic by providing estimates of potential impact specific to their locality.

<http://www2.cdc.gov/od/fluaid/default.htm>

CDC (Pandemic) Planning Guide for State and Local Officials (Draft 3.0)

<http://www.hhs.gov/nvpo/pandemicplan/index.html>

World Health Organization Pandemic Preparedness

<http://www.who.int/csr/disease/influenza/pandemic/en/>

ODH Influenza Preparedness and Response Plan (PIPRP)

This plan is currently in draft form and is not available for public viewing. An overview is available at the OHD website at: <http://www.odh.state.oh.us>

APPENDIX C: – ECHD Priority Prophylactic Treatment Recommendations (Subject to change based on guidance from the ODH and CDC)

ECHD Priority Prophylactic Treatment Recommendations

- Hospital, health department staff and household members, community health providers
- Hospital and health department clinic volunteers (would include all personnel assisting with clinic operations).
- Emergency Medical Service personnel and household members.
- Law Enforcement.
- Fire Departments.
- Public Works.
- Identified contacts.
- General public.

The groups listed below have been identified as possible priority recipients by various entities. It is anticipated that the CDC Workgroup may recommend these groups in their guidance documents. The ODH may have identified different priority groups based on supplies purchased by state funds.

Persons necessary to provide legal authority to initiate activities not governed by current state laws including:

- The Erie County Commissioners and members of the other Erie County municipalities governing bodies.
- The individuals identified by statute to take charge of county functions in the event of the loss or incapacitation of the above administration.
- Persons essential to maintain basic community infrastructure contingent on the epidemiology of the pandemic and the quantity of influenza vaccine available. (See below)
 - Medical laboratory workers
 - Emergency management personnel
 - National Guard members that have been called into state service by the governor
 - Long term care facility staff
 - Utility field workers (gas, electric, water, sewer, etc.)
 - Communications personnel
 - Fuel suppliers
 - Food suppliers
 - Waste management workers (general and medical)
 - Public transportation drivers
 - Air travel personnel (pilots, air traffic controllers, etc.)
 - Corrections workers
 - Morticians/Coroners/Medical Examiners
 - Pharmacists
 - Red Cross field workers
 - U.S. Postal Service workers
 - Contracted persons involved in the transportation of vaccine