

Licking County



Health Department

Pandemic Influenza Response Plan

Licking County Health Department
675 Price Road
Newark, OH 43055

I. EXECUTIVE SUMMARY

The Licking County Health Department Pandemic Influenza Response describes the policies and procedures the Licking County Health Department will undertake in conjunction with federal, state, regional and local partners to minimize the impact of an influenza pandemic in Licking County.

II. DOCUMENT REVISION

The LCHD Pandemic Influenza Response Plan will be maintained and updated by the LCHD Epidemiological Team at least annually.

Revision	Date of Revision	Section Revised	Person Completing Revision
1	6/2009	Document Developed	Chad Brown
2	5/2010	Document Reviewed and Revised	Chad Brown
3	6/2011	Document Reviewed and Revised	Jonathon Dye
4	6/2012	Document Reviewed and Revised	Chad Brown
5	6/2013	Document Reviewed	Chad Brown
6	6/2014	Document Reviewed	Chad Brown
7			
8			
9			
10			

III. INTRODUCTION

A. Background

Influenza pandemics are a significant threat to public health as they have the potential to cause a great amount of illness and death, striking not only vulnerable populations but the young and healthy as well. Influenza pandemics are regular events that have been occurring throughout history with varying degrees of impact. In the 20th century, three pandemics occurred: the 1918 Spanish flu pandemic that resulted in more than 500,000 deaths in the United States, and over 20 millions deaths worldwide; the 1957 Asian Flu pandemic and the 1968 Hong Kong Flu pandemic. The emergence and spread of H1N1 (Swine Flu) has led many scientists and public health experts to believe another influenza pandemic is imminent.

B. Influenza

Influenza is a highly contagious viral disease spread through direct contact or the inhalation of the virus in dispersed droplets from the coughing and sneezing of an infected individual. Signs and symptoms of uncomplicated influenza illness include

fever, muscle aches, headache, malaise, nonproductive cough, sore throat and runny nose. Children often exhibit ear infections, nausea and vomiting as well. Illness typically resolves after several days. The incubation period, the time from exposure to onset of symptoms, is one to four days, with an average of two days. Adults are typically infectious from the day before symptoms begin until five days after onset of illness. Children and immunocompromised persons are infectious for longer periods.

Influenza can exacerbate underlying medical conditions, particularly pulmonary or cardiac disease, and can lead to secondary bacterial or viral pneumonia. The risk for complications, hospitalization and deaths from influenza is higher among older adults (65 years and older), young children and those persons with certain underlying health conditions.

C. Seasonal Influenza V. Pandemic Influenza

Seasonal influenza refers to the yearly influenza epidemics that occur in temperate regions, from December to March, which are caused by strains currently circulating worldwide. These viruses are spread widely among humans, are constantly changing, and cause a relatively mild respiratory illness among healthy people. These influenza viruses do, however, result in an average of 36,000 deaths per year in the United States, mainly in older persons, children, and persons with underlying health conditions.

Vaccination against influenza is the primary method of prevention of seasonal flu. A vaccine specific to the currently circulating strain is developed each year and is the most effective means of reducing the effects of seasonal influenza. Immunity develops from either having been infected with influenza or receiving the vaccine. Any-viral drugs are also available for prophylaxis and treatment of seasonal influenza A infection. The extent these countermeasures will be available and effective against a new virus strain in a pandemic is unknown.

Pandemic Influenza can occur when a new and highly contagious strain of influenza virus emerges that has the ability to infect humans and be passed easily from person-to-person. Because most or all of the world's population has not been exposed to the new virus strain, little or no immunity exists, and the rate of illness increases significantly over the expected level. The current concern for a pandemic arises from the widespread outbreak of H1N1 (Swine Flu).

D. H1N1 (Swine flu)

The 2009 H1N1 (Swine Flu) outbreak is a novel strain of Influenza A virus subtype identified in March 2009. It is believed to be a reassortment of four known strains of influenza A virus subtype H1N1: one endemic in humans, one endemic in birds, and two endemic in pigs (swine). The outbreak began in Mexico, where early reports indicated a surge of cases that was suspected of killing at least 81 people by April 26. As a result, the U.N.'s World Health Organization (WHO), along with the U.S.

Centers for Disease Control and Prevention (CDC), expressed concern that this could become a worldwide flu pandemic, with WHO raising its alert level to Phase 5 out of the six maximum, indicating that a pandemic was "imminent".

According to the CDC, it was not yet clear how serious this new virus actually was compared with other influenza viruses, although on May 26 the CDC stated that new cases in the U.S. had probably peaked, and most cases throughout the world have so far been mild relative to "seasonal flu." But because this is a new virus, most people do not have immunity to it, and illness may eventually become more severe and widespread in different demographic and population groups as a result. The H1N1 flu mainly spreads in the same way that regular "seasonal influenza" spreads, which is through the air from coughs and sneezes or touching those infected. It cannot be transmitted from eating cooked pork or by being in close contact with pigs.

There was no vaccine available to prevent infection as of June 2009, although companies were developing one for availability in late July or August. There was concern that the virus could mutate again over the coming months, leading to a new and potentially more dangerous flu outbreak later in the year, and a vaccine that would be less effective in preventing its spread. Health officials in the U.S. pointed out that the "terrible experience" of the 1918 flu pandemic, which killed approximately 700,000 in the United States alone, was preceded by a mild "herald" wave of cases in the spring.

As of June 1, the virus had spread to more than 66 countries, however over 75% of reported deaths had taken place in Mexico. This led to speculation that Mexico may have been in the midst of an unrecognized epidemic for months prior to the current outbreak, thereby showing a fatality rate that was much higher than it would have been if earlier cases had been counted. According to the CDC, the fact that the flu's infection activity is now monitored more closely may also help explain why more flu cases than normal are being recorded in many countries. With the southern hemisphere soon entering its winter flu season, the CDC, as part of WHO's global surveillance network, would help monitor cases in that region. It has supplied test kits to laboratories in more than 100 countries, and would be providing technical assistance to other governments.

IV. WHO PHASES AND FEDERAL GOVERNMENT'S STAGES OF A PANDEMIC

The World Health Organization (WHO) and the federal government have defined phases and stages of pandemic influenza that "address the public health risks of influenza infection in animals, link phase changes directly with changes in public health response, and focus on early events during a 'pandemic alert period when rapid coordinated global and national actions might help to contain or delay the spread of a new human influenza strain.'" This classification system is comprised of six phases of increasing public health risk associated with the emergence and spread of a new influenza virus subtype that may lead to a pandemic.

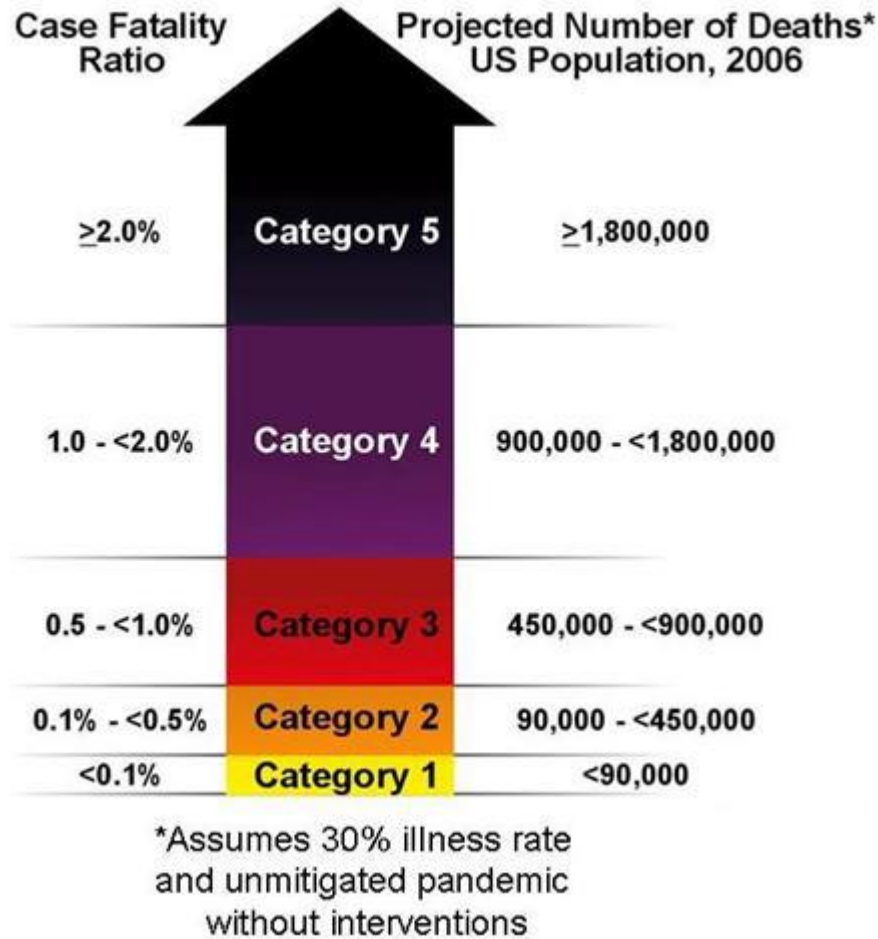
The Director General WHO formally declares the current global pandemic phase and adjusts the phase level to correspond with pandemic conditions around the world. For each phase, the global influenza preparedness plan identifies response measures WHO will take, and recommends actions that countries around the world should implement.

WHO Phases		Federal Government Response Stages	
INTER-PANDEMIC PERIOD			
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 disease is considered to be low.	0	New domestic animal outbreak in at-risk country
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			
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.	0	New domestic animal outbreak in at-risk country
		1	Suspected human outbreak overseas
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.	2	Confirmed human outbreak overseas
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			
6	Pandemic phase: increased and sustained transmission in general population.	3	Widespread human outbreaks in multiple locations overseas
		4	First human case in North America
		5	Spread throughout United States
		6	Recovery and preparation for subsequent waves

V. PANDEMIC SEVERITY INDEX (PSI)

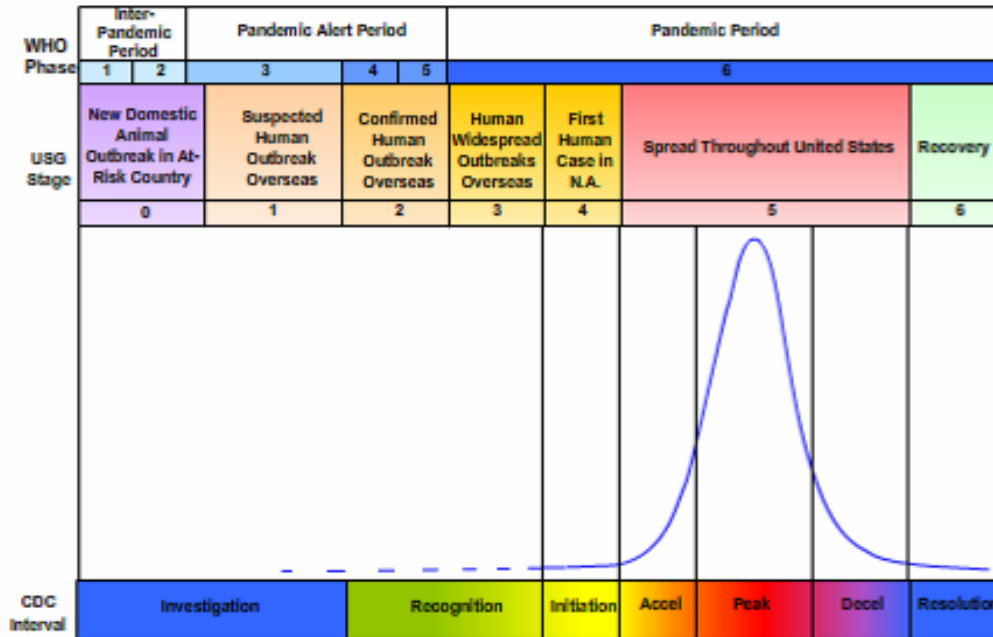
The PSI, which is modeled after the approach used to characterize hurricanes, has five different categories of pandemics, with a Category 1 representing mild severity and a Category 5 representing the most severe. The severity of a pandemic is primarily determined by its death rate or the percentage of infected people who die. The PSI serves as guidance for what actions should be taken during a pandemic in order to do the most good for the greatest number of persons. It drives decisions on issues such as determining

antiviral and vaccine distribution as well as timing of non-pharmaceutical interventions (NPI) such as school closures, isolation and quarantine and other methods that would physically, socially and economically affect the community.



VI. PANDEMIC INTERVAL

In June of 2008, CDC released a framework for pandemic influenza planning and response that includes seven intervals: investigation, recognition, initiation, acceleration, peak, deceleration and resolution. The Licking County Health Department has adopted these intervals and incorporated them into the PAT-Matrix. The intervals are designed to complement the use of the Pandemic Severity Index (PSI) for choosing appropriate community mitigation strategies following an infectious disease bell curve. The PSI guides the range of interventions to consider and/or implement given the epidemiological characteristics of the pandemic. The intervals are more closely aligned with triggers in the PAT-Matrix to indicate when to act, while the PSI is used to indicate how to act. The intervals are a valuable means for communicating the status of the pandemic by quantifying different levels of disease and linking that status with triggers for interventions.



Summation

Pandemic periods, phases and stages represent geographically the status of the disease and serve as a basic guide and foundation for the global public health response. The severity index and intervals direct to what extent public health responds and provides the triggers for the local public health response actions based upon local disease data and activity.

VII. PURPOSE

The purpose of the Licking County Pandemic Influenza Response Plan is to provide a framework for identifying, responding to, and controlling an influenza pandemic in Licking County.

The Licking County Health Department Pandemic Influenza Response Plan (PIRP) follows the U.S. Department of Health and Human Services guidance for developing pandemic influenza response plans (may be accessed via www.hhs.gov/pandemicflu/plan/part2.html).

The Licking County Health Department PIRP is also intended to complement the Ohio Department of Health (ODH) Pandemic Influenza Preparedness and Response Plan (PIPRP) (may be accessed via www.odh.ohio.gov/ASSETS/99CF6AFBC01A46B1A6F67A65CAE190A6/ODHPanFluPlan.pdf).

This plan is also intended to serve as the template for responding to large-scale outbreaks of other highly infectious respiratory diseases such as Severe Acute Respiratory Syndrome (SARS).

VIII. GOALS

When implemented, this plan is intended to achieve the following goals:

1. Limit the number of illnesses and deaths
2. Preserve continuity of critical functions
3. Minimize social disruption and economic losses
4. Prepare for subsequent waves of illness
5. Facilitate recovery

IX. SCOPE AND APPLICABILITY

The Licking County Health Department Pandemic Influenza Response Plan is an Appendix to the Licking County Health Department Emergency Response Plan and applies to all health department staff with responsibilities identified in this plan.

The Licking County Health Department Pandemic Influenza Response Plan addresses response to the progression of a pandemic strain of influenza. Each response effort consists of the six phases of pandemic influenza characterized by the World Health Organization and the Federal Government. Response efforts are categorized in the following functional areas:

1. Education and Communication
2. Surveillance and Epidemiologic Investigation
3. Limiting the Spread of Disease
4. Clinical Guidelines and Disease Management

X. ASSUMPTIONS

1. In a severe pandemic, absenteeism may reach 40-50% at the height of a pandemic wave.
2. A pandemic could last up to 18 months in multiple local waves with fluctuations lasting 6 to 12 weeks each.
3. Personal preparedness through prevention and education is the key to protect the community.

4. Risk Communication is critical during all phases of planning and implementation of a pandemic influenza response.
5. Prevention and public education will impact disease containment measures and need to be implemented in early phases of pandemic to increase the public knowledge on personal disease control measures (i.e., hand hygiene, cough etiquette) and community containment measures (i.e., social distancing, health communications, isolation of ill persons, quarantine of exposed persons).
6. Public health intelligence (i.e., clinical, epidemiological data and the ever changing characteristics of the virus) is difficult to maintain, and may not be available during various heights of the pandemic waves.
7. Of those who become ill with influenza, 50% will seek outpatient medical care. This proportion rises with the availability of effective antiviral drugs for treatment.
8. The number of hospitalizations and deaths depend upon the virulence of the pandemic virus. Estimates differ about 10-fold between the more Severity Index Category 5 and a less severe Severity Index Category 2 scenario.
9. Some persons will become infected but not develop clinically significant symptomatology. Asymptomatic or minimally symptomatic individuals can still transmit infection and also develop immunity to subsequent infection from the same virus.
10. The clinical disease attack rate will average 30% or higher in the overall population during a peak of a pandemic wave. Illness rates will be highest among school-aged children (about 40%) and decline with age. Among working adults, an average of 20% will become ill during a community outbreak. (CDC 1918 Scenario Attack Rate)
11. High risk groups for severe and fatal infection cannot be predicted with certainty but based upon seasonal flu attack rates are likely to include infants, the elderly, pregnant women and persons with chronic medical conditions. Based on the historical 1918-1919 Spanish Flu data, the estimated potential impact of the next influenza pandemic upon Licking County, population between 19 to 64 years will be impacted the most.
12. Early non-pharmaceutical interventions (NPIs: closing schools, voluntary isolation, quarantine of household contacts of infected individuals, “snow days”) may help increase the level of disease prevention during an early pandemic, but may not be workable during a widespread outbreak.
13. The implementation of community containment measures will result in disruption or suspension of a variety of services (i.e., closure of schools, daycare and other public gathering facilities) with resulting widespread economic and social consequences.
14. Shortages of essential resources, including over the counter (OTC) medication, personal protective equipment (PPE), vaccine and antiviral medication will occur.
15. A vaccine for the pandemic strain will likely not be available for six to eight months following the emergence of a novel influenza virus.
16. Antivirals will be in short supply, may not be effective, and may only be available for treatment.
17. Public anxiety and stress will increase and impact the health and well being of community members. About 25%-30% of individuals in severely disaster-affected communities require intensive psychosocial support, compared with 5%-10% percent of individuals in moderately affected communities.

18. Special needs and functional needs populations will require more resources and assistance due to their limitations. In addition, some populations may become part of the transient special or functional needs population during a pandemic and in recovery.
19. Health and safety policies and procedures will be tested and revised to ensure the health and safety plan is in place.
20. The Incident command system (ICS) will be activated in WHO Phase 4, U.S. Stage 2 and the Unified Command System (UCS) will be activated in WHO Phase 5, U.S. Stage 2.

Table 1. Number of Episodes of Illness, Healthcare Utilization, and Death Associated with Moderate and Severe Pandemic Influenza Scenarios*

Characteristic	Moderate (1958/68-like)	Severe (1918-like)
Illness	90 million (30%)	90 million (30%)
Outpatient medical care	45 million (50%)	45 million (50%)
Hospitalization	865,000	9,900,000
ICU care	128,750	1,485,000
Mechanical ventilation	64,875	742,500
Deaths	209,000	1,903,000

- Estimates based on extrapolation from past pandemics in the United States. Note that these estimates do not include the potential impact of interventions not available during the 20th century pandemics.

Table 2. Number of Episodes of Illness, Healthcare Utilization, and Death Associated with Moderate and Severe Pandemic Influenza Scenarios Estimates for Licking County using the HHS National Estimates

Characteristic	Moderate (1968 – like)	Severe (1918 – like)
Illness	47,000	47,000
Outpatient Medical Care	23,500	23,500
Hospitalization	455	5,170
ICU Care	68	776
Mechanical Ventilation	34	388
Deaths	106	993

XI. FEDERAL, STATE, LOCAL, PRIVATE SECTOR AND CRITICAL INFRASTRUCTURE ROLES

The following is an excerpt from the National Strategy for Pandemic Influenza, November, 2005: <http://www.pandemicflu.gov/plan/federal/pandemic-influenza.pdf>

A. The Federal Government

Federal responsibilities include the following:

- Advancing international preparedness, surveillance, response and containment activities.
- Supporting the establishment of countermeasure stockpiles and production capacity by:
 - Facilitating the development of sufficient domestic production capacity for vaccines, antivirals, diagnostics and personal protective equipment to support domestic needs, and encouraging the development of production capacity around the world;
 - Advancing the science necessary to produce effective vaccines, therapeutics and diagnostics; and
 - Stockpiling and coordinating the distribution of necessary countermeasures, in concert with states and other entities.
- Ensuring the federal department and agencies, including federal health care systems, have developed and exercised preparedness and response plans that take into account the potential impact of a pandemic on the federal workforce, and are configured to support state, local and private sector efforts as appropriate.
- Facilitating state and local planning through funding and guidance.
- Providing guidance to the private sector and the public on preparedness and response planning, in conjunction with states and communities.
- Lead departments have been identified for the medical response (Department of Health and Human Services), veterinary response (Department of Agriculture), international activities (Department of State) and the overall domestic incident management and federal coordination (Department of Homeland Security).

B. State and Local Governments

State and local responsibilities include the following:

- Ensuring that all reasonable measures are taken to limit the spread of an outbreak within and beyond the community's borders.
- Establishing comprehensive and credible preparedness and response plans that are exercised on a regular basis.
- Integrating non-health entities in the planning for a pandemic, including law enforcement, utilities, city services and political leadership.
- Establishing state and community-based stockpiles and distribution systems to support a comprehensive pandemic response.
- Identifying key spokespersons for the community, ensuring that they are educated in risk communication and have coordinated crisis communications plan.
- Providing public education campaigns on pandemic influenza and public and private interventions.

C. The Private Sector and Critical Infrastructure Entities

Responsibilities of the U.S. private sector and critical infrastructure entities include the following:

- Establishing an ethic of infection control in the workplace that is reinforced during the annual influenza season, to include, if possible, options for working offsite while ill, systems to reduce infection transmission and worker education.
- Establishing contingency systems to maintain delivery of essential goods and services during times of significant and sustained worker absenteeism.
- Where possible, establishing mechanisms to allow workers to provide services from home if public health officials advise against non-essential travel outside the home.
- Establishing partnerships mechanisms to allow workers to provide services from home if public health officials advise against non-essential travel outside the home.
- Establishing partnerships with other members of the sector to provide mutual support and maintenance of essential services during a pandemic.

XII. DIRECTION AND CONTROL

The Licking County Health Department will assume the role of lead agency for preparing and responding to an influenza pandemic in Licking County.

When WHO moves to Phase 4 the Licking County Health Commissioner will activate the Licking County Health Department Incident Command Structure.

The Licking County Health Department will implement the public health Incident Command Structure. The Licking County Health Department will utilize the Department Operations Center (DOC) to coordinate and manage its public health responsibilities and activities.

XIII. LABORATORY TESTING

Upon the confirmation of a pandemic, LCHD will provide the most up to date information to public as possible. In addition, LCHD will work with the Ohio Department of Health (ODH) to submit specimens in order to be tested at the ODH laboratory. LCHD will follow the testing algorithm provided by ODH, and will submit samples in accordance with ODH requirements. All samples will be delivered to the ODH lab by LCHD personnel in an LCHD vehicle. All samples will be transported in accordance with ODH requirements in order to insure their integrity during the transportation process.

XIV. CONCEPT OF OPERATIONS

Public health goals and objectives will vary according to the WHO Phases, US Stages, severity and intensity (interval) of the pandemic. In each period, public health response will be flexible to scale up and down the efforts according to this information.

The response actions of the Licking County Health Department are implemented based on the three main pandemic periods. The overarching public health goals remain constant throughout the pandemic. The objectives, once implemented, carry throughout the response according to the WHO phases, U.S. stages, severity index and intervals of the pandemic. In each period, the public health response efforts remain flexible and fluid to adjust according to the data and information received.

XV. CONTACT MANAGEMENT

During a confirmed pandemic, LCHD will provide educational information regarding containment measures to control the spread of the disease. This will include information regarding the importance of proper handwashing, minimizing the spread of aerosol droplets by covering coughs and sneezes, and avoiding personal contact with others while an individual is sick.

In the event of a high mortality rate associated with a pandemic the Health Commissioner will use the authority provided by the Ohio Revised Code and issue mandatory closing of public facilities and quarantine orders as the need arises. The Health Commissioner will use the most recent data available from the Ohio Department of Health (ODH) and the Centers for Disease Control (CDC) when making these decisions. Potential mitigation measures may include closing schools, restricting large gatherings, and requiring sick individuals to remain in their homes until their symptoms resolve.

During the 2009 H1N1 pandemic, containment and mitigation recommendations from the CDC and ODH changed frequently. This will require LCHD to insure it monitors this information regularly and make the correct decisions based on the information available.

XVI. PROPHYLAXIS AND VACCINATION

In the event of a pandemic, a viable vaccine will more than likely not be available when individuals begin becoming ill. During this initial phase of the pandemic LCHD will monitor the level of illness in the county through its Influenza Reporting Improvement System (IRIS) and it will monitor the usage of antiviral medications by remaining in contact with the pharmacies in the county. If the level of antiviral medications available becomes inadequate, LCHD will follow the procedures provided in its Medical Countermeasures and Distribution Plan in order to request assets from the Strategic National Stockpile. Once this request is made, LCHD will assume the lead role in providing prophylaxis in Licking County, and it will begin preparations to open a general public Point of Distribution (POD). The POD operations will be conducted in accordance with the MCMD plan.

When vaccine becomes available, LCHD will open a general public POD. These operations will be conducted in accordance with the MCMD plan as well. However, the decision to open a POD will be determinant upon the amount of vaccine available and any restrictions regarding who is eligible to receive the vaccine based on vaccine availability. If an adequate amount of vaccine is not available to open a POD, LCHD will operate vaccination clinics at its 675 Price Road Newark, Ohio location. These clinics will be held until an adequate amount of vaccine is received to open a mass vaccination clinic at a POD location.

XVII. CONCLUSION

In the event of a pandemic, LCHD will assume the role of the lead agency in Licking County. LCHD will work with its public health partners to protect the health of the citizens of Licking County during the pandemic. This will involve operating mass prophylaxis and vaccination clinics, and providing up to date information to the public. When necessary LCHD will take the appropriate measures to control the spread of the disease and attempt to prevent the spread of the disease.