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Commonwealth of Kentucky
Cabinet for Health Services
Department for Public Health
Immunization Program

Pandemic Influenza Preparedness and Response Plan

May be Incorporated as an Annex or Appendix to the
Department for Public Health's
Disaster Response and Recovery Plan

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Introduction

In this plan, there are four points of emphasis:

1. A pandemic will impact all states and regions. Transferring resources among or between affected areas will be difficult.
2. Vaccine safety is important, but also important is speed and efficiency in administering vaccine.
3. The general public will be involved, concerned and desirous to receive information. Public health must appear assured and prepared or the general public's concern may become public panic.
4. It is difficult to perceive any aspect of society that will not be affected by a pandemic of even minimum proportion.

Many stakeholders contribute to pandemic influenza preparedness and response. The content of this plan should be disseminated broadly.

Purpose

The purpose of this plan is to provide a guide for state and local agencies on detecting and responding to an influenza pandemic. The plan describes disease surveillance, vaccine delivery, delivery of antiviral agents, emergency response, and communication activities, as well as how multiple agencies may work together to respond to such an event.

If confronted with pandemic influenza, the priorities of the Department for Public Health (DPH) will be to assure the continuation and delivery of essential public health services while providing assistance to meet emergency needs of the affected population. This plan establishes the framework and guidelines for ensuring that an effective system of health and medically related emergency response is in place to contain adverse outcomes of influenza pandemic.

In the face of a pandemic threat, or ongoing nationwide influenza pandemic, the need to vaccinate millions of persons as rapidly and safely as possible will pose a potentially overwhelming burden on the usual sites for annual influenza vaccination. As knowledge and infrastructure change, the plan should be revised accordingly. In addition, in the event of a pandemic, the judgments of the public health leadership, based on the epidemiology of the virus and the extent of population infection, may alter or override anticipated action plans.

Background

The devastation that could accompany an influenza pandemic is not reflected in the public's perception of the annual flu season, despite the fact that influenza causes significant morbidity

and mortality each year. In 1918, the public shared today's casual view of the virus. Influenza was, as recorded by A.W. Crosby in Influenza 1918, The American Experience, "a homey, familiar kind of illness, two or three days in bed, a week of feeling shaky, and then back to normal." Thus, the rapid and gruesome deaths that occurred during the 1918 pandemic were shocking to both physicians and the public.

A local historian from a small town in southern Ohio put the potential impact of a major shift in viral sub-types into perspective, when he recalled the influence of the 1918 pandemic on his community. The town was located near a military encampment. The historian recalled how the young soldiers would arrive at the camp in the morning healthy and well and, within twenty-four hours, be dead. The dead were so numerous, the community's funeral parlors were overcome and makeshift morgues were located throughout the community. The infamous "Spanish Flu" of 1918 was responsible for more than an estimated 20 million deaths worldwide.

The mortality rates from the pandemics of 1957 and 1968 were lower due in part to less virulent viruses, antibiotic treatment of secondary infections and improved supportive care. Significant societal changes have occurred since 1968, making it difficult to predict the level of illness and disruption that an influenza pandemic could cause today. Increased international travel, a larger cohort of persons over 65 years of age, and a larger number of persons with immunosuppressive conditions contribute to the predictive difficulty.

The following estimates of the impact of a pandemic on Kentucky's population and health resources have been made using the Centers for Disease Control and Prevention (CDC) FluAid software application. The software permits the planner to alter variables to reflect on different, possible scenarios. The jurisdiction's population, health status characteristics are two variables that may be manipulated.

A summary of FluAid estimated pandemic influenza morbidity and mortality for Kentucky follows:

Basis of estimates:

1. Gross Attack Rates – 15%, 25% and 35%
2. High risk percentages by age category:
 - A. 0-18 years of age; 6.4% of the population
 - B. 19-64 years of age; 17.0% of the population
 - C. 65+ years of age; 47.0% of the population
3. Hospitalization rates are equal to the software's default percentages for high risk and non-high risk populations.
4. Inter-pandemic deaths attributed to influenza are 834 persons (taken from state surveillance data for the calendar year 2001).

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Deaths: (Most Likely)

Attack rate	15%	25%	35%
Gross number deaths	1842	3069	4296
Inter-pandemic “base”	834	834	834
Incremental deaths due to pandemic	1008	2235	3462

Deaths: (Maximum)

Attack rate	15%	25%	35%
Gross number deaths	3103	5172	7241
Inter-pandemic “base”	834	834	834
Incremental deaths due to pandemic	2269	4338	6407

Hospitalizations: (Most Likely)

Attack rate	15%	25%	35%
Number of hospitalizations	7233	12055	16878
Average length of stay per hospitalization	6 days	6 days	6 days
Total patient days	43398	72330	101268
Pandemic period	8 weeks	8 weeks	8 weeks
Average daily census	775	1292	1808

Hospitalizations: (Maximum)

Attack rate	15%	25%	35%
Number of hospitalizations	9483	15807	22130
Average length of stay per hospitalization	6 days	6 days	6 days
Total patient days	58698	94842	132780
Pandemic period	8 weeks	8 weeks	8 weeks
Average daily census	1048	1694	2371

We can ill afford to take the prospect of a pandemic casually. Estimates of morbidity and mortality point to a tremendous burden on the Commonwealth’s hospitals and other elements of the health care system. Health and medical personnel, as well as infrastructure workers, i.e., law enforcement, fire and public works, will not be immune.

Pandemic Phases

National pandemic influenza response is divided into several phases, from early identification of a novel virus to resolution of pandemic cycling. These phases are determined and announced by the CDC in collaboration with the World Health Organization (WHO). The Kentucky plan follows the same phase guidelines as the CDC, prescribing necessary activities and identifying responsible parties by pandemic phase. These declared and defined phases will help ensure a consistent and coordinated response by state and local agencies.

The pandemic phase table shown below is based on the phases outlined in the CDC's "Pandemic Influenza: A Planning Guide for State and Local Officials (Draft 2.1).

<u>Pandemic Phase</u>	<u>Definition</u>
Novel Virus Alert	Novel virus detected in one or more humans. Little or no immunity in general population. Potential, but not inevitable precursor to a pandemic.
Pandemic Alert	Novel virus demonstrates sustained person-to-person transmission and causes multiple cases in the same geographic area.
Pandemic Imminent	Novel virus causing unusually high rates of morbidity and/or mortality in multiple, widespread geographic areas.
Pandemic	Further spread with involvement of multiple continents; formal declaration made.
"Second Wave"	Recrudescence of epidemic activity within several months following the initial wave of infection.
Pandemic Over	Cessation of successive pandemic "waves", accompanied by the return (in the U.S.) of the more typical wintertime "epidemic" cycle.

Most experts agree that there will be one to six months between identification of a novel virus and widespread outbreak in the U.S. For purposes of consistency, comparability and coordination of the national, State and local response, identification and declaration of the pandemic phases will be completed at the national level.

CDC Guidance

CDC's Pandemic Influenza: A Planning Guide for State and Local Officials (Draft 2.1) provides guidance for establishing command, control and management procedures, and for establishing operational procedures for the following essential functions: (1) surveillance; (2) vaccine delivery; (3) delivery of anti-viral agents; (4) emergency response; (5) communications, as well as how multiple agencies should work together to respond to such an event. The Planning Guide suggests state and local activities focus on the following action areas:

- A) Devising the concept of operations, i.e., the command structure and lines of authority and communication for managing day-to-day activities during the pandemic.
- B) Enhancing virologic and disease-based surveillance systems for influenza.
- C) Developing policies and procedures for distributing (and monitoring coverage of) influenza vaccine to the entire population in priority order (depending upon vaccine supply).
- D) Developing policies and procedures for providing antiviral agents (amantadine and rimantadine) to high-priority target groups, especially when vaccine is in short supply.
- E) Developing a comprehensive communications plan for effective interactions with the media, medical community, general public, and neighboring jurisdictions, and to transmit surveillance data and other relevant information to the national level.
- F) Developing contingency plans for emergency preparedness, including the provision of adequate medical care and maintenance of essential community services (human infrastructure).
- G) Developing a mitigation strategy, including:
 - 1) Increased emphasis on improving coverage with annual influenza vaccination for all currently recommended high-risk groups during the current pre-pandemic period.
 - 2) Increased emphasis on improving coverage with pneumococcal vaccine during the current pre-pandemic period.
 - 3) Contingency plans for augmenting essential-services personnel in the event of widespread absenteeism.
 - 4) Contingency plans for closing schools and large businesses and canceling community events to reduce spread if such measures are ultimately considered as cost-effective.

Pandemic Planning Team

As noted earlier, the content of this plan should be revised periodically to accommodate increases in knowledge and changes in infrastructure. Additionally, the magnitude of a pandemic dictates that detailed planning for a response include multiple stakeholders. Public health, private healthcare providers, public safety personnel, employers and others should collaborate to “flesh-out” additional details to this plan.

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Without guidance from many stakeholders, the workability of a pandemic plan would be sacrificed. Determining the stakeholders from whom input should be sought and soliciting these experts' counsel will be the responsibility of the Department for Public Health's Pandemic Planning Team (PPT).

The PPT will be composed of DPH personnel from Divisions and Branches that deal with non-DPH stakeholder groups. For example, a PPT representative from the Division of Epidemiology and Health Planning, Surveillance and Health Data Branch may consult with the Kentucky Hospital Association (KHA). The KHA may, in turn, solicit input from Kentucky's hospitals. Issues that may be addressed might include: (1) Investigating and determining the workability and value of an expanded hospital respiratory disease surveillance system; (2) Developing a military hospital reporting mechanism; (3) Working with hospitals to develop a regional transfer policy and (4) Working with hospitals to develop sufficient "surge" capacity.

Other responsibilities of the PPT will include:

1. Serve as liaison communicating stakeholder input to other team members and facilitating communications between stakeholder groups.
2. Assist the Pandemic Plan primary writers, integrating stakeholder input into the final plan document.
3. Assist and/or serve as consultant to the DPH Emergency Operations Center.
4. Conduct exercise to test the Pandemic Plan.
5. Adjust, as needed, the rank order list of high priority target groups for vaccination.

Assumptions

1. Based upon the history in the 20th century, an influenza pandemic will occur. The issue is not if, but when.
2. With the emergence of a novel influenza virus strain, it is likely two doses of vaccine will be required to provide complete protection.
3. The emergency response element will require substantial interaction of agencies beyond health departments.
4. Due to the novel nature of the virus strain, previous influenza vaccination will provide no protection.
5. When the pandemic occurs, vaccines and antivirals will be in short supply and will need to be allocated on a priority basis.
6. If a viral shift occurs and a pandemic emerges, the Center for Disease Control and Prevention (CDC) will control vaccine supply.

7. Demand for services will exceed supply, and the response will require non-standard approaches.
8. The CDC and other federal government will be responsible for “generic” guidelines, information fact sheets, etc.
9. Secondary bacterial infections following influenza illness may stress antibiotic supplies.
10. It is doubtful the current methodology of acquiring, distributing and administering influenza vaccine will be workable because: (1) the vaccine will be short supply, and (2) the CDC will control vaccine supply and allocate vaccine to the states as available.
11. Theoretically, over 4,000,000 Kentuckians will need to be vaccinated by order of priority with no assurance the amount of vaccine needed will be available when requested.
12. Communications to the public throughout a pandemic, especially when planning a mass vaccination by prioritized categories will be critical and difficult. The public’s cooperation throughout the vaccination campaign will be critical.

Command, Control and Management Procedures

Command, control and management procedures for pandemic influenza preparedness and response will be those established for other threats, including biological threats, in the Department for Public Health’s Disaster Response and Recovery Plan, to which this pandemic influenza preparedness and response plan may be annexed. Additionally, per Executive Order 96-1220, the Division of Disaster and Emergency Services and the Adjutant General’s Department of Military Affairs shall coordinate for the Governor all matters pertaining to emergency management activities in the Commonwealth. Among other responsibilities, the Adjutant General shall “Maintain and operate the Kentucky Emergency Operations Center as the 24 hour warning point and communications and command center from which the Governor and the heads of all State agencies can, at any time, effectively direct, control and coordinate the disaster and emergency responses and recovery efforts of State Government.” The Division of Disaster and Emergency Services is also responsible for “developing, maintaining and executing the Kentucky Emergency Operations Plan...”

Operational Procedures for Essential Functions Pre-Pandemic Period (Novel Virus Alert to Pandemic Alert)

The following describes by essential function, influenza-related activities that are conducted during inter-pandemic periods. These activities form the base upon which influenza pandemic activities will be built.

Surveillance

Routine surveillance activities in the Commonwealth include:

1. Participation in the “122 Cities Influenza and Pneumonia Mortality System” wherein vital statistics offices of U.S. cities report on a weekly basis the percentage of total deaths caused by influenza and pneumonia. Lexington is one of the cities reporting. Cincinnati, OH; Evansville, IN; Knoxville, TN and Nashville, TN are also reporting cities.
2. (During flu season or October through April) Participation in the “State and Territorial Epidemiologist Report”. Using information derived by sentinel local health departments (LHDs), influenza like illness (ILI) information is provided to the State Influenza Surveillance Coordinator regarding selected schools’ absentee rates and ILI in nursing homes. Sentinel LHD located in more populated areas derive ILI information from a doctor’s office or hospital. The Commonwealth submits a subjective estimate of the status of influenza to the CDC based upon this information.
3. Sentinel physicians submit information about ILI illness (age grouped) directly to the CDC (approximately 650 nationwide). The information provided includes the total number of patients seen and the number of patients with ILI by age group. Physicians are strongly encouraged to submit viral submissions. In Kentucky, sentinel physicians report their data to the Department of Public Health through the influenza surveillance coordinator who subsequently communicates this information to the CDC.
4. Kentucky Administrative Regulation 902 KAR 2:020, require reporting of communicable diseases to local health departments and the Kentucky Department for Public Health (DPH). The Administrative Regulation is supported by Kentucky Revised Statute (K.R.S.) 214.010, which states “Every physician shall report all diseases designated by regulation of the Cabinet for Health Services as reportable which are under his special treatment to the local board of health of his county....” Influenza virus isolates are to be reported weekly by laboratories, and ILI’s in long-term care facilities are to be reported within 24 hours to the DPH. LHD, to meet their surveillance mandate, employ in each county registered nurses who either clarify the information provided or follow-up with the reporting physician, laboratory or long-term care facility. To augment the LHD surveillance activities, the DPH coordinates the activities of the Epidemiology Rapid Response Team. The Commonwealth is currently employing regional epidemiologists that will greatly enhance its surveillance capacities.
5. Practitioners use rapid antigen tests to make treatment decisions of ILI. Practitioners are requested to send cultures to the DPH laboratory for confirmatory testing and isolate determination. The state provides influenza collection kits. This information is then used in determining what will compose influenza vaccine and to determine if a new, novel strain may be present. The DPH laboratory is one of 75 WHO Collaborating Laboratory Surveillance facilities.

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The Center for Disease Control and Prevention (CDC) will, in addition to collaborating with the World Health Organization (WHO) regarding surveillance, provide guidance on diagnostic testing and antiviral development. The DPH laboratory will receive these diagnostic test reagents.

There are a number of licensed laboratories in Kentucky, including the DPH laboratory that performs virology at some level. These laboratories are capable of isolating an influenza virus in cell culture from nasopharyngeal and pharyngeal swabs. These laboratories will be enlisted to evaluate cultures during a pandemic.

Vaccine Delivery

The purchase, distribution and administration of influenza vaccine during inter-pandemics is a process involving both the public and private sectors. Local health departments (LHD), through a purchasing cooperative, acquired and administered over 100,000 influenza doses through their clinics. Each LHD that operated a clinic would bill patients by a variety of methods (Medicaid, Medicare, cash, etc.).

The LHD's administers approximately 12,000 doses of vaccine acquired by the DPH's Immunization Program. Approximately, 6,500 of these doses are for high-risk patients. Private providers acquire and administer the greatest percentage of influenza vaccine in the Commonwealth.

Antiviral Delivery

The purchase, distribution and administration of anti-viral agents during inter-pandemic periods are not routinely a role assumed by the Department for Public Health. Private providers assume the role of acquiring and administering anti-viral agents.

Emergency Response

Specific immunization response activities are detailed below in the Vaccine Distribution and Administration section. The Kentucky Department for Public Health has prepared, as a component of the Commonwealth of Kentucky's Emergency Operations Plan, a Disaster Response and Recovery Plan (DRRP). The DRRP describes the Department for Public Health's emergency response procedures. In general, pandemic influenza emergency response will be conducted as described in the DRRP for other biological threats. This Pandemic Influenza Preparedness and Response Plan may be made an Annex to the Department's DRRP.

The Purpose of the DRRP is "to provide operational guidance to functional divisions with the DPH in order to plan, organize, staff and provide disaster support. The DRRP shall be activated by the Commissioner of DPH in the events of:

1. A request from a local health department, and confirmation of need; or
2. The declaration of a major disaster within the Commonwealth by the Governor; or
3. Any disaster or other emergency situation, which, in the judgment of the Commissioner of DPH constitutes a threat to the public's health, regardless of whether a major disaster has been declared or whether local authorities have requested assistance from the DPH."

The DPH can activate the DRRP (per event 3) without precipitating the activation of the Kentucky Emergency Operations Plan. The Commissioner of the Department for Public Health may, in consultation with CDC, determine if a pandemic constitutes a threat to public health in Kentucky, activate the DRRP, and mobilize the DPH Emergency Operations Center. The need for logistical assistance may require the activation of the State's Emergency Operations Plan and mobilization of the Kentucky Emergency Operations Center.

Communications

The Cabinet for Health Services (CHS), Office of Program Support, Office of Communications, carries out the public information tasks for all agencies within the Cabinet, including the Department for Public Health.

A function of the Kentucky Emergency Operations Center is to maintain and operate a "communications and command center". As the lead agency in any emergency declared by the Governor, communications to external parties and agencies, would be generated by, coordinated through, and/or approved by the Adjutant General, Department of Military Affairs.

Operational Procedures for Essential Functions Pandemic Period (Pandemic Imminent to Pandemic Over)

The following are action activities by essential function in response to pandemic influenza, or a greater likelihood of pandemic influenza.

Surveillance

In preparation for a pandemic, “routine” influenza surveillance may be expanded to subpopulations that might serve as an early warning system or that are particularly vulnerable to influenza. Various “enhanced” surveillance concepts will be evaluated during an interpandemic. These enhanced surveillance concepts would be activated if the pandemic phase escalates to the pandemic imminent level. The process to evaluate enhanced concepts might incorporate recommendations presented in the CDC publication, “Updated Guidelines for Evaluating Public Health Surveillance Systems.”

Enhanced surveillance recommendations that may be implemented include:

1. Expanding the LHD surveillance network, increasing the number of schools and nursing homes surveyed.
2. Implementation of a hospital based respiratory illness surveillance system.
3. Implementation of an intra-state influenza and pneumonia mortality surveillance system.

“Routine” surveillance activities currently performed or planned, include:

1. The Sentinel Physician Network be maintained and expanded to include one physician per 250,000.
2. The regional epidemiologist program is completed.
3. Emphasis placed on reporting any outbreak of ILI in nursing homes and other institutional setting.
4. Establishing a contact and reporting system with military hospitals (posts) for alert of ILI in traveling military personnel.

Representative from the DPH Laboratory will provide updates on the availability of diagnostic testing as the pandemic moves through phases. If and when, the CDC and WHO develop licensed antibody diagnostic testing, the DPH Laboratory will be the lead agency in placing this test in the certified high complexity (for virology) laboratories.

Vaccine Delivery

Assuming the following:

- A. The CDC will control the flow of an inadequate supply of influenza vaccine.
 - B. States will receive an allotted quantity and will be responsible for redistributing the vaccine throughout their jurisdiction.
 - C. The Commonwealth's current means of acquiring and distributing vaccines will not be workable under pandemic conditions.
1. A plan has been developed addressing the distribution and storage for allotted quantity of vaccine. See Vaccine Distribution and Administration, below.
 2. A plan has been developed for prioritizing the cohorts to receive vaccine. It is assumed, because it is a pandemic influenza strain, immunization must be statewide (versus regional/locale based upon disease occurrence). See Vaccine Distribution and Administration, below.
 3. Guidance to the LHD has been developed to administer available vaccine to prioritized categories of the population. See Planning and Implementation Guidance for LHDs and Community Partners, below.
 4. Identify partners in the community through the LHD that can assist with mass immunizations.
 5. Promote increased influenza and pneumococcal vaccine coverage levels in traditional high-risk groups through state and local associations with the assistance of the Cabinet for Health Services, Office of Communications, and LHDs.
 6. Encourage the Kentucky Medical Association and other physician and health care professionals' associations and organizations to promote increased influenza and pneumococcal vaccination.

Antiviral Delivery

The purchase, distribution and administration of anti-viral agents for otherwise vaccine-preventable diseases are not a role routinely assumed by the Department for Public Health. Private providers traditionally assume the role of acquiring and administering anti-viral agents to patients. However, if anti-viral agents were to become available through the federal government, these would be distributed on an as needed basis either through the vaccine distribution channels described below, or directly to the requesting provider.

Emergency Response

1. The Division of Epidemiology and Health Planning will keep the Commissioner abreast of reports of influenza-like-illnesses (ILI) and results of surveillance activities throughout the Commonwealth.
2. Based upon this information, the Commissioner will activate the DRRP and mobilize the DPH-EOC.
3. The Commissioner will request the Governor to activate state resources for a pandemic response.

Communications

The CHS Office of Program Support will develop a crisis communication strategy, Office of Communications. In doing so, a representative of the Office of Communications will coordinate with the Department for Public Health's Division of Epidemiology and Health Planning. As activities are completed, the Office of Communications may revise the crisis communication strategy.

Vaccine Distribution and Administration

Vaccine Distribution

The Commonwealth has limited "designated" vaccine storage facility with personnel available to distribute or redistribute vaccine. There are, within the public health infrastructure, 56 local health departments as potential vaccine receiving locations.

It is assumed vaccine will be allocated and distributed by the CDC or other federal agency. The states will be responsible for redistributing the vaccine in its jurisdiction. Vaccine will probably be in short supply and the initial quantity will not be sufficient to inoculate 100 percent of the population. The quantity of subsequent shipments cannot be anticipated and lead times will probably be short. Therefore, vaccine will have to be distributed as received and administered in order of priority.

Assuming the above, the plan to distribute the vaccine is as follows:

1. It will be difficult, with currently limited resources, to distribute vaccine to multiple locations. Therefore, vaccine distribution locations (VDL) will be established.
2. Each VDL will service a designated geographical area and group of LHD.
3. VDL locations should meet the following criteria:
 - A. Be located on major highways and centrally located to the LHD's served;
 - B. Service a significant population and number of LHD's;

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- C. Secure facilities with proven electrically back-up and temperature monitoring capabilities; and
- D. Easily serviceable by LHD and DPH personnel responsible for movement of the vaccine from a central receiving point (if the CDC does not permit direct shipments to multiple locations within a state).

Eleven VDL have been selected. **Attachment 1** provides specific information regarding where the VDL are located, areas to be served by each location and the population of the service area.

- 4. The quantity of vaccine placed in each VDL will be completed by formula and be based upon:
 - A. The quantity of vaccine received from the federal government;
 - B. The order of administration priority; and,
 - C. The estimated number of vaccinees in each priority category being served by the VDL. The estimated number of vaccines needed by priority category, will be established by the DPH, in consultation with LHDs, other providers or provider groups, and other agencies of state and local government.
- 5. The DPH will be responsible for the movement of the vaccine to the VDL and the security of the vaccine until received at the VDL.
- 6. Each LHD will be responsible for moving vaccine from the VDL to their predetermined storage or administration sites. They will be responsible for security once taken from the VDL.
- 7. Each LHDs vaccine allocation from the VDL will be based on vaccinee priority category. No vaccine allocation for a lower priority group should be made until a higher priority group is vaccinated to the point where no one else presents, or the vaccine allocation for the higher priority group is exhausted.

Vaccine Administration

It is anticipated that vaccine will be in short supply and the initial quantity will not be sufficient to inoculate 100 percent of the population. In view of the likely vaccine shortage, the U.S. Public Health Service is in the process of formulating recommendations for a rank-order list of high priority target groups for vaccination. The Kentucky Pandemic Planning Team should, with the U.S. Public Health Service recommendations, devise a strategy to deploy vaccine. The order of these groups will be based on a number of factors, including the need to maintain those elements of the community infrastructure that are essential to carrying out the pandemic response plan; to limit mortality among high-risk groups; to reduce morbidity in the general population; and to minimize social disruption and economic losses.

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The vaccine will be distributed to each VDL based upon the population demographics of the area served and the order of priority for vaccine administration. The following target groups should be addressed in plans to administer limited vaccine:

Category 1 – Health care workers and public health personnel involved in the distribution or administration of vaccine and antiviral agents.

Category 2 – Persons responsible for community safety and security, e.g., police, firefighters, National Guard, emergency medical services providers, ambulance drivers and other first responders not included in first priority group.

Category 3 – Highly skilled persons who provide essential community services whose absence would either pose a significant hazard to the public safety (e.g., nuclear power plant workers) or severely disrupt the pandemic response effort (e.g., Persons who operate regional telecommunications or electric utility grids).

Category 4 – Persons traditionally considered to be at increased risk of severe influenza illness and mortality, as currently defined by the Advisory Committee on Immunization Practices (ACIP), which includes:

- Persons age 65 or older;
- Residents of nursing homes and other chronic-care facilities that house persons of any age who have chronic medical conditions;
- Adults and children who have chronic disorders of the pulmonary or cardiovascular systems, including asthma;
- Adults and children who have required regular medical follow-up or hospitalization during the preceding year because of chronic metabolic diseases (including diabetes mellitus), renal dysfunction, hemoglobinopathies, or immunosuppression (including immunosuppression caused by medications or by human immunodeficiency virus [HIV]);
- Children and adolescents (aged 6 months-18 years) who are receiving long-term aspirin therapy and, therefore, might be at risk for experiencing Reye syndrome after influenza infection; and
- Pregnant women.

Category 5 – Household contacts of persons with high-risk medical conditions.

Category 6 – Persons not included in category 3 above who, in the judgment of state and local health officials, provide critical community services, e.g., utility workers, funeral service personnel, personnel involved in the transport of essential goods such as food, etc.

Category 7 – Healthy persons between ages 18-64.

Category 8 – Pre-school age (especially those attending day care centers) and school age children.

Attachment 2, The Where, When and How – Vaccine Distribution provides an example of how vaccine would be distributed using a sample age cohort.

Planning and Implementation Guidance for LHD and Community Partners

Vaccine Distribution and Storage

Each LHD will develop their own vaccine redistribution, storage and administration plans based upon their own populations and knowledge of available resources. LHD responsibility begins when vaccine is received at the VDL. Listed below is planning guidance:

1. Each LHD should designate an individual to receive the vaccine and to maintain a vaccine tracking system. The DPH will, prior to placing vaccine in a VDL, provide the following information to the LHD representative:
 - A. The date and approximate hour the vaccine will be available at the VDL.
 - B. The quantity of vaccine available for the LHD.
 - C. The category of individuals for whom the vaccine is being made available.
2. A DPH representative will be available at the VDL to assist the LHD representative. The quantity and lot numbers assigned the LHD will be recorded.
3. The LHD representative will, once notified by the DPH of the vaccine arrival hour, forward similar information to their associated community partner(s). Each LHD will establish their own community partnerships and may include persons or groups who may receive and administer vaccine to the designated categories of the population.
4. Vaccine will be stored at the LHD or with a community partner. The LHD should, prior to redistributing any vaccine, have on file documentation acknowledging the community partner has developed procedures to assure the biological viability and physical security of the vaccine.
5. Each LHD will have developed procedures to document the receipt and redistribution of the vaccine. This documentation should indicate the amount (by lot number) and date of vaccine received, as well as the amount (by lot number), date and method of redistribution to the community partner.
6. All vaccine designated for a particular LHD is the responsibility of the LHD. No direct shipments to a community partner will be made without the approval of the LHD and assurance the above referenced information will be captured.

Vaccine Administration and Community Partner Recruitment

The recruitment of community partners will depend upon the resources available to the LHD. In addition, the actual coordination with community partners may be further refined based on the populations that are targeted for actual disease management during a pandemic.

In working with community partners the LHD must ensure that these partners understand their roles and the expectations associated with their participation. They must be familiar with the plan to administer available vaccine in order of priority and be willing to work with all public health and safety officials. The community partner must be prepared to accept and store vaccine, and must ensure that vaccine administration is properly documented for accountability purposes. Finally, the personnel resources devoted by the community partner should be considered a public health contribution to the community, rather than a cost-reimbursable or profit-making endeavor.

LHD might consider the following groups as potential community partners for vaccine redistribution and administration:

1. Pharmacies and pharmacists (in Kentucky pharmacists may immunize after having received 10 hours of training in this area, many have already completed this training).
2. Home health agencies and commercial health care vendors.
3. Nursing homes and assisted living facilities.
4. Local employers with significant retirees and health nurses, local unions.
5. Private medical providers (consider, especially, medical specialties that would treat category 4 subgroups; i.e., oncologists, nephrologists, pulmonologists, pediatricians, infectious disease specialists.)
6. Hospitals with clinic operations.
7. Urgent care centers, walk-in clinics or managed care organizations.

Administration and Organizational Guidance

1. Establish a Community Influenza Task Force (CITF). The CITF should include representatives of home health agencies, hospitals, the public health sector, physician groups and emergency health groups.
2. Areas to be addressed by the CIFT might include: (1) hospital capacity, (2) hospital bed management and transfer policies, (3) hospital communication protocols, (4) hospital supply shortages, (5) home health agency coordination and “standing orders”, (6) policies regarding public health advisories and uniformity in communications to the public and (7) policies regarding suspending elective procedures in hospital owned and physician owned operations.

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Attachment 1

Vaccine Distribution Locations

Vaccine would be distributed as received based upon the population by priority category

Vaccine Distribution Location	Area Dev. Districts to be Served	Local Health Departments included in ADD area	ADD Population
Purchase District Health Department Mayfield, KY	Purchase	Purchase District, Marshall Cty	193495
Pennyrile District Health Department Hopkinsville, KY	Pennyrile	Pennyrile Dist., Hopkins Cty. Muhlenberg Cty., Christian Cty. Todd Cty.	215519
Green River District Health Department Owensboro, KY	Green River	Green River District	207377
Barren River District Health Department Bowling Green, KY	Barren River	Barren River Dist., Allen Cty. Monroe County	255225
Gateway District Health Department Owingsville, KY	Buffalo Trace	Buffalo Trace Dist., Bracken Cty. Fleming Cty., Lewis Cty.	55229
Gateway District	Gateway	Gateway Dist., Montgomery Cty.	76237
Gateway District	Fivco	Fivco Dist., Little Sandy Dist. Greenup County	135849
Gateway District		TOTAL	267315
Kentucky River Dist. Health Department Hazard, KY	Kentucky River	Kentucky River Dist., Breathitt Cty.	120656
Kentucky River Dist.	Big Sandy	County Health Depts inc: Floyd, Johnson, Magoffin, Pike	160532
Kentucky River Dist.			281188

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Cumberland Valley District Health Department	Cumberland Valley	Cumberland Valley Dist., Knox Cty. Laurel Cty., Whitley Cty.	238270
Cumberland Valley	Lake Cumberland	Lake Cumberland District	193452
			431722
Lincoln Trail Dist Health Department Elizabethtown, KY	Lincoln Trail	Lincoln Trail Dist., Breckenridge Cty	243202
Louisville Metro Health Department	Kentuckian	North Central District, Counties inc; Louisville Metro, Bullitt, Oldham	869306
Lexington-Fayette Health Department	Blue Grass	Wedco District, Counties inc: Anderson, Bourbon. Boyle Clark, Estill, Fayette, Franklin, Garrard, Jessamine, Lincoln Madison, Mercer, Powell, Woodford	686003
Northern Kentucky District Health Department	Northern Kentucky	No. Kentucky District, 3 Rivers Dist	391417
		Totals	4041769

Attachment 2

The When, How and Where of Vaccine Distribution:

Comments:

1. Vaccinations must be undertaken statewide because it is anticipated disease will be widespread and geographical prioritization will not be possible based upon disease occurrence.
2. The number of individuals composing each vaccination category should be determined prior to a pandemic for each vaccine distribution location, local health department, county health center and associated community partner. This information will be necessary to order and distribute limited quantities of vaccine.
3. The Office of Communications should be prepared to address questions regarding vaccination categories and the basis for prioritizing the categories.
4. There are, at this point in the planning effort, many unknowns, which will impact vaccine distribution. Examples of questions that remain unanswered might include: (1) will vaccine be shipped to multiple locations or to a single location; (2) will vaccine be allocated with a minimum/maximum amount to be shipped or will the states have the opportunity to order the amount needed; (3) will vaccine be shipped in a standard lot size (for example, each case would contain 500 boxes of 10 dose vials) and (4) will the vaccine be shipped via ground or air? Obviously, these unknowns will impact planning.

The most difficult circumstances include: (1) the quantity of vaccine to be received will be allocated by the CDC with little (if any) notification of the amount being shipped; (2) the vaccine will be shipped by air; (3) the vaccine will be shipped to a single location for redistribution by the state and (4) the vaccine will be shipped in lots of a minimum amount of 5000 doses.

The goal of the distribution plan must be to move available vaccine to the targeted category (ies) simultaneously to all regions of the state. The vaccine must be moved quickly and the product integrity maintained. Movement of the vaccine to the Vaccine Distribution Locations, local health departments, county health centers and associated community partners must be considered and included in the final planning document. The input and counsel of many stakeholders with expertise in security, freight forwarding, air port facilities should be gathered and considered before the details of the planning document are concluded.

This attachment is intended to provide general direction to the Pandemic Planning Team in this area of vaccine distribution and to illustrate how a limited amount of vaccine would be distributed to a prioritized category.

1. The categories of individuals to receive vaccine have been determined and the priorities established by Steve Englender, M.D., State Epidemiologist and head of the pandemic planning effort.
2. The amount of vaccine to be distributed by the state to each Vaccine Distribution Location (VDL) has been established by category.

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3. Directors of health departments chosen as VDLs know the amount of vaccine to be distributed to each health department, county health center being served by their location. Each VDL understands their refrigeration and storage capacity and, depending upon the amount of vaccine received additional refrigeration and storage capacity (on premise and at other available locations)
4. The airport to receive vaccine has been determined. Refrigeration and storage capacity has been located in close proximity to the airport (refrigerated trailers could serve as storage units and to transport the vaccine, food distributors warehouse might be used to store vaccine and/or refrigeration capacity could be acquired). A truck line with a full line of refrigerated trucks has been chosen and routes to vaccine distribution locations determined (with input from the Department of Transportation, Kentucky State Police (KSP) and Department of Military Affairs) pre-determined.
5. A plan of communications has been developed and practiced. The plan might include: (1) the Immunization Program Manager has been notified of the time the flight is to arrive at the chosen airport and the exact quantity of vaccine arriving; (2) the Immunization Program Manager would notify the airport vaccine distribution manager of the expected arrival time and quantity of vaccine being shipped; (3) the airport vaccine distribution manager would contact the contracted break bulk handler and the contracted truck line; (4) a temporary, mobile facility would be put in place (in a distinct and separate portion of the airport or available hanger) to prepare the shipments
(5) the vaccine would move directly, if possible, from the plane to refrigerated trucks (each vaccine distribution location would receive vaccine by truck that is dedicated to their location), (6) the vaccine distribution manager, when trucks are ready for movement, would notify the KSP, Department for Military Affairs and the vaccine distribution locations.
6. The Directors of the health departments serving as vaccine distribution locations would notify the directors of the health departments being served and the county health center managers of the impending vaccine arrival.

Example of how the Priority Categorization and the VDL would work

- Assumptions 1 The 65 + cohort is the highest priority group.
 2 Vaccine will be shipped to 1 location, maximum to ship 350,000 in 10,000 lots
- Methodologies 1 350,000 received in central receiving location
 2 Central location would break 5, 10,000 lots

Vaccine Distribution Locations	Total Population	Over 65	% of ADD over 65	% of Cohort in ADD	Vaccine to Receive	Lot Quantity Shipped
Purchase District	193495	31452	16.25%	0.0623	21807	1807
Pennyrile District	215519	29295	13.59%	0.0580	20312	312

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Green River	207377	28316	13.65%	0.0561	19633	9633
Barren River	255225	32714	12.82%	0.0648	22682	2682
Lincoln Trail	243202	27219	11.19%	0.0539	18872	8872
KIPA	869306	109464	12.59%	0.2168	75897	5897
Blue Grass	686003	75721	11.04%	0.1500	52501	2501
Northern Kentucky	391417	42069	10.75%	0.0833	29169	9169
Buffalo Trace	55229	7706	13.95%	0.0153		
Gateway	76237	9232	12.11%	0.0183		
Fivco	135849	19359	14.25%	0.0384		
		36297		0.0719	25167	5167
Big Sandy	160532	19203	11.96%	0.0380		
Kentucky River	120656	14517	12.03%	0.0288		
		33720		0.0668	23380	3380
Cumberland Valley	238270	29812	12.51%	0.0591		
Lake Cumberland	193452	28714	14.84%	0.0569		
		58526		0.1159	40579	579
State Totals	4041769	504793	12.49%	1.0000	350000	49999

Attachment 3

Definitions/ Acronyms

Gross Attack Rate: The percentage of population that becomes clinically ill due to influenza. Clinical Illness is a case of influenza that causes some measurable economic impact, such as one-half day work lost, or a visit to a physician's office.

Inter-Pandemic Period: Same as Pre-Pandemic Period. Period between influenza pandemics or prior to the commencement of a new pandemic.

ACIP: Advisory Committee on Immunization Practices

ADD: Area Development Districts

CDC: Centers for Disease Control and Prevention

CHS: Cabinet for Health Services

CITF: Community Influenza Task Force

DPH: Department for Public Health

DRRP: Disaster Response Recovery Plan

EOC: Emergency Operations Center

ILI: Influenza like illness

KHA: Kentucky Hospital Association

KSP: Kentucky State Police

LHD: Local Health Department

PPT: Pandemic Planning Team

RDP: Regional Distribution Points

VDL: Vaccine Distribution Location

WHO: World Health Organization

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