

Comparative Assessment of Eight Southeastern State Public Health Plans for Pandemic Influenza

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A background document for the November 10, 2005, conference on

Pandemic Influenza Planning:
The Reality of Implementation in the Southeast

by

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This review is based on state pandemic influenza plans that were available as of November 1, 2005, one day before the U.S. Department of Health and Human Services issued update planning guidance for states.



SECEBT
Southeastern Center for Emerging Biologic Threats

Comparative Assessment of Eight Southeastern State Public Health Plans for Pandemic Influenza

The purpose of this report is to provide a starting point for discussions at the November 10, 2005, Southeastern Center for Emerging Biologic Threats (SECEBT) conference on "Pandemic Influenza Planning: The Reality of Implementation in the Southeast."

This report is based on a review of the pandemic influenza plans that have been prepared by the eight states in the consortium and, as of November 1, 2005, are all publicly available on the Council of State and Territorial Epidemiologist (CSTE) web page.¹ These states are Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, and Tennessee. This review provides a framework to identify key unresolved issues that confront state public health agencies as they seek to anticipate an influenza pandemic. The report includes the following three sections:

GENERAL CHARACTERISTICS OF STATE PLANS

COMMON PLAN ELEMENTS

SECEBT CONFERENCE WORKGROUPS. This section provides more detailed information on five areas that will be addressed in conference workgroups: (1) Containment/Surveillance, (2) Healthcare and Capacity Issues, (3) Antivirals, (4) Vaccines, and (5) Animal/Human Interface. Each section provides an overview of the plans, examples from individual state plans, and a summary of key outstanding questions that will be critical in responding to a pandemic. *Conference participants in the workgroups may elect to focus on these or other specific questions.*

GENERAL CHARACTERISTICS OF STATE PLANS

In general, the plans have the following shared characteristics:

- To varying degrees, the plans represent "plans to plan" and outline the need for more specific plans or action steps that may be required in the event of an influenza epidemic. This reflects current uncertainties regarding:
 - the nature of a future influenza pandemic, e.g., would it resemble the 1918 pandemic or the more recent pandemics of 1957 or 1968,
 - the availability and effectiveness of a new vaccine targeted towards the pandemic strain,
 - the availability and effectiveness of antiviral drugs,
 - federal policies for the purchase and distribution of the vaccine and antiviral medications, and

¹ Council of State and Territorial Epidemiologists. Available at URL: <http://www.cste.org/specialprojects/Influenzaplans/StateMap.asp>.

- federal guidance regarding the prioritization and use of the vaccine and antiviral medications.
- The documents generally reflect the draft pandemic influenza pandemic guidance issued in August 2004 by the Department of Health and Human Services (DHHS).² All plans are viewed by their authors as documents that will be updated, revised, or amended as federal guidance and policies become more specific, as the risk and nature of the pandemic influenza threat comes into greater focus, and as the task of planning continues in each state. On November 1, 2005, President Bush announced the release of the National Strategy for Pandemic Influenza,³ and on November 2, 2005, DHHS issued its revised Pandemic Influenza Plan.⁴
- The plans refer to the stages of influenza pandemics as defined by the World Health Organization⁵ and outline anticipated actions that would be taken as a pandemic evolves across these stages.
- The plans articulate steps that states are currently taking or intend to take to enhance preparedness but in general do not document the status of those efforts or provide specific timelines for ongoing activities. Of the seven plans that include a date of release, three represent updates issued in October 2005; others were issued from May 2003 through May 2005, including two issued before the draft HHS plan.
- The plans reference multiple other state emergency-response planning documents, especially for those dimensions of an emergency public health response that are likely to be generic rather than specific to influenza. Statewide procedures for interagency command and control, healthcare surge capacity, distribution of resources from the Strategic National Stockpile (SNS), and implementation of policies such as mandatory isolation and quarantine, are typically covered by other documents and referenced in the pandemic influenza plans. For example, states are developing plans for emergency healthcare surge capacity with support from the Health Resources and Services Administration's National Bioterrorism Hospital Preparedness Program.⁶ In addition, state plans may delegate specific planning responsibilities to districts or counties. Influenza plans are either stand-alone documents (with varying numbers of appendices that include information from other

² Department of Health and Human Services. Draft Pandemic Influenza Response and Preparedness Plan, August 2004. Available at URL: <http://www.hhs.gov/nvpo/pandemicplan/>.

³ The White House. National Strategy for Pandemic Influenza. Available at URL: <http://www.whitehouse.gov/homeland/pandemic-influenza.html>.

⁴ Department of Health and Human Services. Pandemic Influenza Plan, November 2005. Available at URL: <http://www.hhs.gov/pandemicflu/plan/>

⁵ World Health Organization, as cited by the Centers for Disease Control and Prevention, Available at URL: <http://www.cdc.gov/flu/avian/gen-info/pandemics.htm>. See also WHO Global Influenza Preparedness Plan, Available at URL: http://www.who.int/csr/resources/publications/influenza/WHO_CDS_CSR_GIP_2005_5.pdf.

⁶ Health Resources and Services Administration. National Bioterrorism Hospital Preparedness Program. Available at URL: <http://www.hrsa.gov/bioterrorism/overview.htm>.

plans, background or resource information, or specific procedural guidance), or they are appendices to broader planning documents. This review focused primarily on the pandemic influenza plans.

COMMON PLAN ELEMENTS

Common elements of the plans include descriptions of:

- The potential impact of pandemic influenza in the state and key planning objectives and assumptions. This includes an assessment of the potential impact of pandemic influenza on morbidity and mortality and healthcare use, typically based on calculations done using the CDC *FluAid*⁷ and *FluSurge*⁸ software, respectively. In addition, state planners start with the presumption that a new pandemic influenza vaccine will not be available when illness first affects their citizens, that the distribution of the vaccine to states will be managed by the federal government, and that the supply of both vaccine and antiviral medications will not meet the demand, necessitating articulation of priorities for use.
- Legal authorities for the role of public health agencies in disease prevention and control, including reference in varying detail to specific state statutes or regulations. This includes authorities for surveillance, epidemic investigations, and imposition, if necessary, of measures such as mandatory isolation, quarantine, and school or business closures.
- The role of the public health agency as part of the broader statewide emergency response system. All influenza plans refer to a statewide emergency response plan or emergency operations plan (EOP) that outlines procedures for invoking emergency authorities, convening a state-level Emergency Operations Center (EOC), policies and procedures for establishing an incident command system to coordinate activities of multiple state agencies (including adherence to National Incident Management System [NIMS] standards⁹), and the role of public health as part of a larger command structure in managing federally-defined Emergency Support Functions (ESFs) #6 (Mass Care) and #8 (Public Health).¹⁰ Separate public health emergency or bioterrorism preparedness plans typically include policies for establishing a public health EOC and incident command system to coordinate public health activities under the authority of a state-wide EOC. Influenza plans refer either directly or via broader plans to state healthcare surge capacity plans. These broader plans also include procedures for coordinating communications with the media through joint information centers.

⁷ CDC. National Vaccine Program Office. FluAid . Available at URL: <http://www2.cdc.gov/od/fluaid/default.htm>.

⁸ CDC. FluSurge. Available at URL: <http://www.cdc.gov/flu/flusurge.htm>.

⁹ Federal Emergency Management Agency (FEMA). National Incident Management System. Available at URL: <http://www.fema.gov/nims/>.

¹⁰ FEMA. Emergency Support Functions. Available at URL: <http://www.fema.gov/about/esf.shtm>.

- Pandemic influenza-specific response activities. These generally represent a progressive escalation of activities during the WHO-defined pandemic stages for:
 - surveillance and epidemiologic investigations;
 - laboratory resources for surveillance, epidemiologic investigations, and healthcare;
 - procedures for obtaining, managing, storing, distributing and re-distributing, protecting, tracking, prioritizing use, and providing influenza vaccine and antiviral medications. To lesser extents, the plans also address the use of other drugs (e.g., antibiotics) or vaccines (e.g., pneumococcal vaccine);
 - risk reduction and health education messages for the public, including procedures for disseminating information via the Internet, the media, and community outreach;
 - providing medical, other technical information, and logistic updates to healthcare providers, public health staff, and emergency service providers;
 - collaborating with officials responsible for animal health (e.g., Departments of Agriculture) in the event of avian influenza among commercial poultry flocks;
 - surges in demand for healthcare services and infection control in healthcare settings, including the use of "non-traditional" healthcare settings, the use of home healthcare, and the mobilization of professional and community volunteers; and
 - consideration of potential recommendations to close schools or large businesses, to cancel large public events, or to impose mandatory or voluntary isolation or quarantine.

SECEBT CONFERENCE WORKGROUPS

Participants in the November 10, 2005, SECEBT conference will be divided into the following five work groups: (1) Containment/Surveillance, (2) Healthcare and Capacity Issues, (3) Antivirals, (4) Vaccines, and (5) Animal/Human Interface. The remainder of this report will focus on these areas. Each section will provide an overview of the plans, examples from individual states, and a summary of the author's impressions regarding key outstanding questions that will be critical in responding to a pandemic.

Containment/Surveillance

Proposed activities to contain or limit influenza transmission fall into three general areas: (a) health education and risk reduction messages aimed at the public, including recommendations for voluntary isolation, home healthcare, and personal hygiene measures to reduce the risk of transmission, (b) providing regular updates and guidance to healthcare providers, district or local public health offices and staff, and emergency response personnel, and (c) consideration of the possible need to impose mandatory restrictions on the movement and activities of citizens, including measures such as isolation, quarantine, or school/business closure or cancellation of public events. Overall, these activities would be informed and guided by a fourth program

component, an array of stage-specific multi-faceted surveillance systems. A policy preamble in the Florida plan encapsulates these and other key concepts:

"To assist and facilitate appropriate planning and response at all levels of government, the following policies will be followed:

- a) Florida DOH employees will have a working knowledge of this plan and identified roles.
- b) Appropriate information will be shared with the public.
- c) Information will be shared with county health departments, physicians, hospitals and other health care professionals, and emergency management agencies at appropriate levels.
- d) Florida DOH resources will be utilized before requesting assistance from other sources.
- e) The FL DOH will adhere to appropriate medical ethics and practice when allocating scarce resources."

Health education and risk reduction. All plans emphasize the importance of monitoring information updates from the federal government (e.g., through the Health Alert Network) and other sources, providing information to the public regarding the prevention of influenza transmission and influenza care, and working with the media. In general, the plans described pandemic-phase specific activities using increasingly active methods to communicate with the public through the Internet, press briefings, public-access cable channels, and published reports, including preparation of materials in languages other than English (predominantly Spanish). The specificity of plans ranged from the articulation of needs for educational and media materials as a pandemic progressed to detailed documentation of steps that have been taken or are underway to develop educational materials for the public and media. In this regard, North Carolina's plan, which includes an appendix describing the state's Public Health Crisis Communications Plan, is the most detailed, noting, for example, that:

- Public surveys and focus groups have been completed to "assess the public's and the media's understanding of disease outbreaks..." and this information has been used to develop educational materials.
- Multiple resources for emergency printing have been pre-identified.
- 24/7 hotline services are available, including back-up plans to increase hot-line capacity and enlist volunteer support if necessary.
- Risk communication and media relations training is ongoing for local health department staff, including training specific for pandemic influenza.
- Personnel resources include a bilingual (Spanish) public information officer and webmaster.
- The Department of Health and Human Services' Public Affairs Office (PAO) maintains and periodically updates a "portfolio of communication, information, and education resources and materials on topics including clinical and laboratory diagnostics, infection control, isolation and quarantine, stigmatization management, travel control authority, legal issues and agencies' roles and responsibilities."
- A lead spokesperson for pandemic influenza and specific subject matter experts have been identified
- "The PAO has prepared and maintains Pandemic Influenza messages and materials to be disseminated during the various phases of a pandemic."
- "The...PAO has developed a 'library' of Pandemic Influenza-related material for reference. These materials are updated as new information is developed."

Two plans (North Carolina, South Carolina) specifically mentioned the possibility of recommending that citizens wear masks as part of respiratory etiquette. For example,

the North Carolina mentioned the possibility of recommending mask use in public settings as part of "community containment measures:"

"...*community containment measures* may be applied to groups of persons or to communities during outbreaks characterized by extensive transmission. These interventions range from *measures to increase social distance* among community members (e.g., cancellation of public gatherings, use of masks, implementation of community-wide "snow days") to *community-wide quarantine*."

Medical, technical, and logistic information for healthcare, public health, emergency responders, and other participating government agencies and non-governmental organizations. As with public and media communications, the plans outline a series of progressively frequent and multi-dimensioned approaches to providing updates to partner agencies and organizations. Plans generally identified key professional constituent groups and partner agencies. Some provided appendices listing organizations and contact information for groups such as the state's hospital association, professional societies representing various healthcare disciplines, and community-based or non-governmental organizations. For example, South Carolina's pandemic influenza plan is a subsection within the Mass Causality Plan annex to the state's overall emergency response plan. Within the Mass Causality Plan, in addition to 47 specific responsibilities assigned to the Department of Health and Environmental Control, 1-6 specific responsibilities are described for the:

- Office of the Governor
- South Carolina National Guard
- South Carolina Emergency Management Division
- Department of Labor, Licensing and Regulation, Division of Professional and Occupational Licensing
- South Carolina Commission on Higher Education
- South Carolina Hospital Association
- South Carolina Medical Association
- South Carolina Pharmacy Association
- South Carolina Nursing Association
- South Carolina Department of Commerce, Aeronautics Division
- South Carolina Baptist Convention
- SC Department of Education
- State chapter of the American Red Cross
- South Carolina Law Enforcement Division
- South Carolina Department of Transportation
- Budget and Control Board
- Veteran's Administration Consolidated Mail Order Pharmacy

Although adherence to infection control policies and procedures would be critical to containing influenza transmission, most of the plans do not include specific infection control guidelines, presumably since such guidelines are readily available and are general rather than specific to influenza. Exceptions are the Alabama plan, which provides a 2-page appendix offering infection control guidance for healthcare and long-term care facilities, and the Florida plan, which provides a 7-page synthesis of infection control guidance geared to influenza and drawn from CDC and other sources. The North Carolina plan discusses the use of masks and other infection control procedures

in healthcare settings as an element of the containment response across multiple pandemic stages.

Isolation, Quarantine, Travel Restrictions, Cancellation of Public Events, and other Legally Mandated Containment Strategies. Six of the eight plans mention or describe the state's legal authority to impose mandatory restrictions on the movement of citizens as a containment control strategy, including the role and authority of the public health agency to impose or recommend such restrictions. At a minimum, seven of the plans mention the possible use of recommendations for voluntary limitations on movement. Examples of the plans' consideration of constraints on movement include:

Florida. In a section entitled "Recommendations Regarding Quarantine and Declarations of Emergency," the following observation is made: "For emergency preparedness planning, the projected scale of pandemic influenza mitigates against any practical and ameliorative application of and reliance on traditional quarantine or isolation of persons and buildings..." The Department of Health's Division of Disease Control has convened a Technical Assistance Group to guide revision of the state plan issued in March 2004. That group's draft recommendations (October 15, 2005) give further consideration to the role of isolation, quarantine, and travel restrictions, emphasizing voluntary rather than mandatory measures and potential changes in the utility of these measures during the course of a pandemic:

"As the incidence of influenza increases, interventions that may have been effective and appropriate earlier in an influenza outbreak such as isolation, contact tracing, and voluntary quarantine of contacts, would cease to be effective or feasible during a pandemic."

"The WHO does not recommend that quarantine be employed once an outbreak has become a Pandemic. However, self quarantine is a reasonable and conservative public health recommendation that may result in some benefit."

"In consideration of the FDOH will recommend and emphasize the following disease control interventions to slow the incidence of disease during an influenza pandemic:

- a. home, or hospital, isolation of persons ill with influenza.
- b. home quarantine of persons exposed to a person ill with influenza.
- c. travel restrictions of persons ill with influenza or exposed to influenza.
- d. school and work closures, and cancellations of public gatherings to include church and sporting events if indicated by epidemiologic surveillance and analysis.
- e. extensive public education, social marketing and work with social institutions (schools, employers, churches, etc) to reinforce prevention messages and gain public cooperation with necessary measures to delay the onset of epidemic influenza."

Georgia. On the question of legally-mandated isolation or quarantine, the Georgia plan defers to "draft Isolation and Quarantine rules and regulations (under development)." As stated in the pandemic influenza plan, "Areas addressed in other plans (e.g. ...isolation and quarantine) may be relevant during a pandemic, but will not be addressed specifically in this plan." Given the importance of Atlanta's airport as a major international transportation crossroad, "As outlined in the [Public Health Emergency Operations Plan] Airport Incident annex and the Isolation and Quarantine annex (under development), [the Georgia Division of Public Health] will partner with quarantine stations at international airports and shipping ports to facilitate detection of novel virus importation by people arriving from countries where the novel virus is known to be circulating by educating those disembarking in Georgia. CDC has the lead responsibility at these quarantine stations."

Mississippi. The Mississippi plan state that legal restrictions may be imposed. For example:

"If indicated, the State Health Officer will cautiously direct isolations and quarantines. The state will observe national recommendations to provide the highest level of protection and care for Mississippi residents."

"If vaccines and/or antiviral agents are not available, supportive and symptomatic treatment will be encouraged, appropriate isolation will be recommended, and isolation/quarantine could ensue."

North Carolina. Several references are made to isolation and quarantine:

“Reduction of the infection rate via chemoprophylaxis should be the last preventive option and should follow implementation of other recommended or indicated preventive efforts (e.g., restrictions on travel and communal events, isolation of ill persons, quarantine of exposed persons, implementation of infection control measures such as the use of masks and diligent hand washing, and vaccination).”

“Communication Coordinator are (sic) reviewing state quarantine and isolation regulations and creating education materials (FAQs, Q&As, etc.) for public education efforts.

As a planning assumption, “Public health control measures ranging from...quarantine or isolation to community-wide cancellations of events may be needed. Such measures, especially when widespread, will disrupt the economy and require massive amounts of law enforcement and other manpower resources.”

In an appendix entitled “COMMUNITY CONTAINMENT MEASURES INCLUDING NON-HOSPITAL ISOLATION AND QUARANTINE AND HOME CARE,” several “*community containment measures*” are considered, including “cancellation of public gatherings, use of masks, implementation of community-wide ‘snow days.’” Regarding the “snow day” approach, “community members are asked to stay home as they would during a major snowstorm. Schools are closed, work sites are closed or restricted, large public gatherings are cancelled, and public transportation is halted or scaled back.”

South Carolina. Stage specific recommendations for isolation and quarantine are described:

Novel virus alert—“Recommend employment of isolation practices for a) symptomatic persons with travel risk factors or contact with others having travel risk factors, b) those with culture confirmed and identified novel strain, c) symptomatic persons that are not yet confirmed.”

Pandemic alert—“Authorize required isolation practices for a) symptomatic persons with travel risk factors or contact with others having travel risk factors, b) those with culture confirmed and identified novel strain, c) symptomatic persons that are not yet confirmed.

Pandemic—“Implement restrictions on travel, trade, and the prohibition of large public gatherings. Non-essential businesses that may result in large congregations of people will be closed as will schools and other public meetings will be suspended.” “Individual quarantines may be authorized...”

Surveillance. The plans describe current influenza-related surveillance activities, efforts that are underway to strengthen or enhance these activities, and plans for progressive steps to expand surveillance and epidemiologic assessments as a pandemic progresses through the succession of WHO-defined stages. The progression of proposed influenza surveillance activities reflects an evolution of surveillance objectives during the course of a pandemic from an emphasis on initial detection and characterization of a threat, to tracking the course and impact of the pandemic epidemic as manifest by trends in healthcare use and other indicators of morbidity and mortality, to monitoring the benefits and adverse effects of vaccines or antiviral medications.

States described their use of four standard influenza surveillance methods that are part of the national influenza surveillance program coordinated by CDC:

- Monitoring the number and percentage of office visits for influenza-like illness (ILI) among patients seen by networks of sentinel physicians, including targeted specimen collection to identify circulating influenza strains;
- Participation in CDC’s 122 Cities mortality surveillance system which monitors the number and percentage of deaths attributed to “pneumonia & influenza.” This system includes the following cities in six of the eight SECEBT partner states: AL (Birmingham, Mobile, Montgomery), FL (Miami, St. Petersburg, Tampa), GA

(Atlanta, Savannah), KY (Lexington), MS (none), NC (Charlotte), SC (none), TN (Chattanooga, Knoxville, Memphis, Nashville)

- Monitoring viral isolates at the state's public health laboratory, and
- State epidemiologists' assessments and reporting of the level of influenza activity.

In addition to these core activities, states have instituted additional inter-pandemic surveillance measures, such as:

- Augmenting the system of sentinel providers beyond those participating in the national CDC-managed sentinel provider network,
- Voluntary or mandatory reporting of influenza-related deaths or severe illness among children,
- Voluntary or mandatory reporting of ILI outbreaks in institutional settings such as long-term care facilities or schools,
- Use of the Behavioral Risk Factor Surveillance System (a CDC-supported, state-level telephone survey) to monitor vaccination coverage,
- Increasing use of "syndromic surveillance" methods. These systems have been developed as part of efforts to enhance the early detection of bioterrorism-related illness but are also useful to detect the onset of anticipated seasonal upswings in viral respiratory or gastrointestinal illness. Methods include monitoring of outpatient or emergency-department visits for ILI, 911/EMS calls for respiratory problems, sales of selected over-the-counter or prescription medication, orders for specific diagnostic tests, and school or work absenteeism.

States envision a number of steps to enhance surveillance and epidemiologic assessments during the progression of a pandemic, including:

- Increasing the number of sentinel physician or syndromic surveillance sites,
- Expanding beyond current seasonal limits the duration of sentinel physician ILI surveillance or specimen testing for viral isolates,
- Targeting specific groups for surveillance of ILI, such as travelers returning from at-risk global regions or, in the event of illness in birds, poultry industry workers (steps that would be abandoned with evidence of more widespread transmission within states),
- Tracking morbidity (e.g., hospitalization) and mortality rates,
- Assessing vaccine efficacy,
- Monitoring adverse events related to vaccine use (through the CDC's Vaccine Adverse Event Reporting [VAERS] system) and antiviral drug use,
- Increasing the frequency of various surveillance reports, up to daily, as indicated by the intensity of the pandemic situation.

Key Issues for the Containment/Surveillance Workgroup

- Infection control in healthcare settings: While the techniques of infection control for influenza draw on well-recognized methods articulated in guidelines from CDC and other organizations, the primary challenges may be logistic, including:

- Implementing procedures for cohorting or isolating patients in waiting areas and other sites within facilities where patients, staff, and visitors mix during a period when hospitals and clinics are operating under surge conditions,
 - Reconciling differences in the specifics of infection control guidelines or recommendations issued by various agencies or organizations, and
 - Establishing alternative care sites or procedures for home health care where less severely ill patients can be treated, minimizing the risk of further introduction of influenza into hospitals and clinics.
- Isolation, quarantine, and other community-level efforts to minimize transmission. While the plans describe states' authority to impose potentially restrictive measures and consider the potential need for such measures, the utility and optimal phase-specific timing of voluntary or mandatory restrictions on movement and recommendations for use of masks is uncertain. Review of evaluations of such measures in response to SARS may be illustrative but should take into account differences in both the incubation period and transmissibility of SARS and influenza. Laws authorizing such actions are “on the books,” but there is limited experience in the widespread use of such measures. In this regard, the “snow day” analogy articulated by North Carolina draws on an intervention familiar to state residents, although such measures would need to be imposed for a considerably longer period during a pandemic compared with the duration of closures and service cut-backs associated with a snowstorm.
 - Risk Communication. Based on descriptions in the plans, states vary in the level of advance preparations that have been made to develop materials for health education and the media, in efforts to train and prepare public health spokespersons in media relations, and in efforts to reach out to disadvantaged or vulnerable communities. This raises two questions:
 - How can educational and media materials developed by individual states be effectively shared among partner states?
 - Are there lessons learned from planning or practice regarding working with the media or conducting community outreach that should be shared among partner states?
 - Surveillance. The needs for information will evolve over the course of a pandemic. The SECEBT states share a core of common surveillance methods, and all envision efforts to intensify or supplement these methods over the course of a pandemic. There are also variations among states in the array of surveillance methods currently in use and in how those methods would be extended during a pandemic, including differences in the use of newer forms of automated surveillance termed “syndromic surveillance.”¹¹ Thus, the following questions arise:

¹¹ The term “syndromic surveillance” in current public health parlance embraces three concepts: 1) it is an approach that has been used increasingly in the wake of the terrorist attacks of 2001, with the objective of improving early detection of bioterrorism-related illness as well as trends in non-terrorism related diseases such as influenza, 2) it typically involves the use of automated methods for harvesting, managing, and analyzing health-related data already stored in electronic formats, and 3) it monitors trends in illness syndromes and other health indicators (e.g., medication purchases, calls to 911 centers)

- What is the optimal mix of surveillance methods at various pandemic stages?
- What is the utility of newer forms of “syndromic surveillance” for detecting the onset of an influenza pandemic and for tracking the course of a pandemic, compared to more traditional influenza surveillance tools?

Healthcare and Capacity Issues

The plans anticipate surges in demand for healthcare services, including the needs to identify and track current and potential reserve capacity in healthcare facilities, the possible need for alternative care sites and home care, and surges in the need for personnel at a time when pandemic illness may be affecting healthcare providers and their families. Some provide guidance for surge capacity planning. For example, the Florida plan has appendices that provide guidelines for the use of non-traditional settings for healthcare and for healthcare facilities and resource management. Six plans list the state hospital association as a key partner in multiple areas, including participation in planning leadership committees, surveillance, professional and public education, communicating with healthcare professionals, distribution of SNS resources and influenza vaccines, and anticipating and responding to surges in demands for healthcare. Regarding surge capacity, descriptions of the roles of the state hospital associations include:

- Kentucky. “The KHA may, in turn, solicit input from Kentucky’s hospitals. Issues that may be addressed might include...Working with hospitals to develop a regional transfer policy and...to develop sufficient ‘surge’ capacity.”
- Mississippi. “A new web-based status system will allow the MSDH to identify the numbers and types of beds available to state planners in the event of a pandemic. MSDH will continue to utilize its contract with the Mississippi Hospital Association for terrorism preparedness to facilitate preparedness in licensed facilities.
- South Carolina. The South Carolina Hospital Association will:
 “Assist in activation of regional mass casualty plans.”
 “Assist in expansion of medical care infrastructure capacity as permitted by the Emergency Health Powers Act.”
 “Assist with development of plans for surge capacity and, along with the Department of Health and Environmental Control, establish acceptable standards of care when facilities are at or beyond capacity.”
 “Assist with coordination of expansion of medical services to meet surge in demand.”
- North Carolina. At the pandemic alert stage, the “North Carolina Hospital Association sends out notice to hospital administrators to begin ramping up beds by initiating Flu plans for surge capacity. Requests are made to establish lines of communication between hospital Incident Command officer and the local Public Health Director.”

Six plans also list the state chapter of the American Red Cross as a key partner in supporting healthcare services, including providing translators and facilitating home health care.

that can be obtained in advance of diagnosis-based information. With regard to this last attribute, this is a familiar concept in the area of influenza surveillance, which has long relied on monitoring relatively non specific indicators such as “influenza-like illness” or deaths attributed to “pneumonia & influenza,” which are mostly “pneumonia.”

Under funding from the Healthcare Resources and Services Administration (HRSA), states and their healthcare partners are building capacity to respond to surges in demand for healthcare during public health emergencies. While steps needed to address surge capacity at successive pandemic stages are noted, they do not, in general, provide details on surge capacity plans or the status of preparations supported under the HRSA-funded program. Relevant questions concerning surge capacity planning include whether procedures have been established to:

1. Engage back-up health care personnel, both professional and administrative,
2. Enlist community volunteers to support healthcare services,
3. Identify and quantify hospital resources, such as the number of available ward or ICU beds, the number of beds that could be added during an emergency, and reserves of supplies and equipment, such as respirators.
4. Identify overflow locations for care and nontraditional care sites.
5. Triage ill persons for home care, out-patient assessment, or possible hospital care.
6. Anticipate legal and liability concerns that may arise in provide surge-level care services.

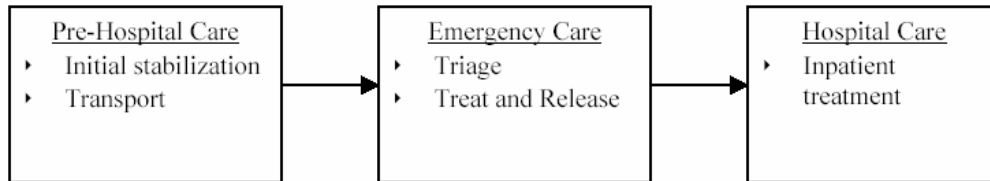
Although these tasks are listed in many of the pandemic plans, to supplement the information on surge capacity planning, two additional steps were taken. First, an Internet search was done for the term “surge” targeting the web pages of both the public health departments and the state emergency management agencies for the eight SECEBT states. Second, an email message was sent to the HRSA preparedness coordinators in each of the eight states requesting available information on healthcare surge capacity planning for pandemic influenza. Excluding Internet “hits” for strategic planning documents that listed surge capacity planning as future action steps, these steps yielded two additional resources:

- Mississippi’s hospital survey questionnaire form and template for assessing hospital resources, surge capacity, and emergency procedures and plans. This exemplifies the type and scope of information that health departments are collecting from hospitals to prepare for surges in healthcare demands (Internet link provided in footnote).¹²
- Dennis L. Jones, RN, BSN, State Hospital Community Preparedness Coordinator (manager for HRSA-supported hospital preparedness programs) for the Georgia Division of Public Health (GDPH) provided materials outlining the steps that Georgia is taking to respond to surges in demand for healthcare, including identification of hospital resources, purchase of portable hospital units, and

¹² Mississippi Department of Health. Office of Emergency Planning and Response. Hospital Emergency Preparedness. Bioterrorism Hospital Preparedness Program. Planning Template. Developed by the Mississippi Department of Health, in cooperation with the Mississippi Hospital Association, under guidance from the Health Resource Services Administration – Contract No. 6 U3R MC 00033 01 R1. August 2005. Available at URL: <http://www.msdh.state.ms.us/msdhsite/index.cfm/44,1454,122,154,pdf/HospitalDisasterTemplate%2Epdf>

preparations for home healthcare.¹³ To prompt further discussion, Georgia's strategy is summarized below.

Georgia Integrated Surge Capacity Plan (Draft). For hospital care, this plan considers physical facilities and equipment (patient care equipment and supplies, pharmaceuticals, personal protective equipment for healthcare workers, and communications equipment), personnel, and training for three phases of care:



Hospital care surge capacity is considered in the following categories:

Internal Surge Capacity: Patient care capacity that can be created by hospitals by repurposing beds or non-patient care areas of the hospital in an emergency, including a) inpatient beds that are equipped are not routinely staffed, b) day treatment beds and beds that are equipped but located in special service units (e.g., post-anesthesia or recovery units, cardiac catheterization or endoscopy labs), and c) hospital spaces where beds, stretchers, or cots could be placed (e.g., hallways, classrooms, or other non-patient care areas, and existing patient rooms). As of 9/20/2005, over 90% of 147 hospitals had responded to a survey requesting assessments of the number of surge capacity beds in these three categories. Responses documented the potential availability of nearly 12,000 beds beyond current bed capacity, including approximately 20%, 30%, and 50% of this extra capacity in the above three categories, respectively. The HRSA-defined target for Georgia of is 4,094 surge beds.

Acute Care Centers: Temporary facilities set-up in non-hospital settings, following the Modular Emergency Medical System model created by the Department of Defense.

In-Home Hospitalization: The use of various kinds of technology to supervise the care of patients who remain at home with family members as primary care givers.

Portable inpatient units. GDPH is purchasing 18 mobile hospital facilities that can be set up in 4 hours and accommodate 50 patients each. These will be positioned throughout the state (one in each of the state's 18 public health districts, capable of being positioned at any district location with 90 minutes but with capacity to be moved throughout state in response to a crisis). Although this resource is geared primarily to meeting a focal and rapidly emergent emergency need, these facilities could be a resource in the event of a pandemic.

Home health care. As part of the "home hospitalization" program, public health nurses in each of the state's 18 public health districts would staff a 24/7 hotline to advise callers on home health care and assess needs for other care options; public health departments would deliver or provide home care kits with information and selected medications for symptomatic or supportive care and for in-home infection control, local government-access cable televisions stations and other media would be used to disseminate guidance for providing home care, and public health nurses would follow-up as indicated by telephone with family care providers to check patients' status and assess the continuing suitability of home care.

Key Issues for the Healthcare and Capacity Workgroup

- An influenza pandemic could severely strain healthcare resources, not only with respect to the care of patients with influenza but also for patients with routine needs for outpatient, emergency, and hospital care—resources that in many

¹³ Georgia Division of Public Health. State of Georgia Integrated Surge Capacity Plan (Draft, April 2005).

areas are already stressed by routine demands. States and healthcare partners are engaged in developing emergency healthcare plans as part of the bioterrorism and emergency preparedness program funded by HRSA. The applicability of these preparations for meeting healthcare surge capacity demands for pandemic influenza is difficult to assess from the pandemic influenza planning documents alone. Health care surge capacity planning documents are less readily available than pandemic influenza plans. Improving integration of surge capacity and pandemic influenza plans and improving cross-state access to surge capacity plans may be useful to partner states.

- As recently illustrated by the Hurricane Katrina disaster, our traditional distinction between healthcare and public health as separate disciplines may be irrelevant during a large-scale health emergency, and access to healthcare is likely to be a critical public health concern. In general, lead responsibility for developing pandemic influenza plans rests with state epidemiologists whose primary federal partner is the Centers for Disease Control and Prevention (CDC), the agency that provides guidance regarding surveillance and vaccinations and that will be responsible for distributing influenza vaccine. Healthcare planners relate primarily to HRSA. Integration of these functions will be essential to a successful public health response to pandemic influenza.

Vaccines

Vaccination for pandemic influenza is a major part of all state plans. Unknowns include the timing of vaccine availability relative to the appearance of pandemic influenza and, once available, the number of doses that will be available to each state over time. State plans start with the presumption that infections will precede vaccine availability, that the vaccine will be in short supply relative to demand, and that the vaccine will be distributed to states by CDC. States vary in the extent to which public and private resources will be used to provide vaccination services, although a common starting point is that pandemic influenza vaccination should not be a profit-making enterprise.

In reviewing the vaccination plans, key attributes that were examined included:

1. Funding: who will pay for the vaccine, what is the source of funds?
2. How will the vaccine be received, stored and distributed?
3. How will states proportion vaccine between public and private providers?
4. How will vaccine stores, distribution, and use be monitored, what is the role of the state's immunization registry?
5. Is there a plan for redistributing vaccine if necessary (e.g., post-distribution shifting of available vaccine among health departments or private providers)?
6. How will allocation of vaccine be prioritized among potential vaccine recipients?

These 6 questions will be summarized briefly for each state.

Funding: who will pay for the vaccine, what is the source of funds?

Alabama: Not stated¹⁴

Florida: The plan anticipates that the state and local governments will "need to absorb the 'up-front' costs associated with the purchase, delivery, and administration of vaccine" and that later reimbursement from CDC "may be able to offset costs." The plan further states that "the personnel resources devoted by community partners should be considered a public health contribution to the community, rather than a cost-reimbursable or profit-making activity."

Georgia: As with other state plans, current vaccine purchasing policies are described. Currently, the only state-purchased influenza vaccine is within the VFC program. However, local public health districts directly purchase both adult and pediatric influenza vaccines directly from manufacturers.

Kentucky: Not stated

Mississippi: Not stated

North Carolina: Source of funding for vaccination will be determined in collaboration with the Epidemiology Section, and negotiation with CDC for vaccine purchase is anticipated (as Pandemic Alert phase activities)

South Carolina: Not stated

Tennessee: Not stated

How will the vaccine be received, stored and distributed?

Alabama: Four storage options for refrigerated storage consistent with states Immunization Division Emergency Handling Procedures: 1) the Vaccine Distribution Center (VDC) within the ADPH warehouse, 2) Public Health Area Offices and 22 County Health Departments, 3) rented tractor-trailer refrigerator units, 4) local hospitals, private providers, or businesses. Distribution would be managed by ADPH with back-up as needed by UPS.

Florida: The state's Central Pharmacy would receive the vaccine, although if allowed by CDC, direct shipment from the manufacturer to county health departments or their designated community partner(s) would be preferred. The Central Pharmacy has capacity to store up to 500,000 doses, and efforts are in progress (March 2004) to identify "the state's partners, such as local hospitals, that would be able to assist with...short-term emergency storage needs." The Bureau of Immunizations and Central Pharmacy will be responsible for distributing the flu vaccine "using the existing infrastructure and contracts with commercial carriers," with back-up as needed by the police or military personnel. Locally, vaccine will be stored by county health departments, and counties would be responsible for identifying local partners to administer the vaccine, who are anticipated to include large tertiary care facilities, large provider practices, and large residential facilities. In some instances, the state's central pharmacy may ship vaccine directly to these providers. The state's Bureau of Immunization would be the arbiter for any complaints about the allocation of vaccine.

Georgia: The plan refers to the state's "Public Health EOP Standard Operating Guidelines for Mass Vaccination/Dispensing Clinic, which identifies guidelines for all levels of public health to request, receive, store, transport, distribute, dispense/administer pharmaceuticals, vaccines, and certain medical supplies in response to such an event." The state's Immunization Program would be responsible for distributing the vaccine.

Kentucky: The state health department would receive the vaccine and be responsible for allocation and distribution. An airport for receiving the vaccine has been designated, and plans for secure transport of the vaccine to a central storage site have been established, including use of refrigerated trucks and police escorts. Communications among agencies involved in receiving and initial transport of the vaccine have been practiced. The state has limited vaccine storage capacity and has designated 11 Vaccine Distribution Centers (VDCs) based on access to transportation, proximity to population centers, security and established electrical supply back-up, and accessibility by state and local public health staff. The plan lists the names and locations of the VDCs. Vaccine would be allocated to local jurisdictions using a formula based on the number

¹⁴ The notation "not stated" in this section reflects information available in pandemic influenza plans. This may or may not be an indication that states have not considered a particular question, which may have occurred but not be described or documented in the plans.

of priority vaccine recipients in each area. Local health departments will be responsible for distributing the vaccine from the VDCs and for assuring that local partners adhere to storage standards and use recommendations. The plan provides guidelines to local health departments for implementing a vaccination program.

Mississippi: Vaccine would be distributed using distribution sites, coordination and communications procedures, and vaccination sites as specified in the state's SNS plan. The State Pharmacy, or if more appropriate, Receiving, Storage, and Shipping (RSS) sites identified in the SNS plan, would serve as the primary storage site.

North Carolina: Vaccine will be distributed among local health department based on local estimates of doses needed (to be developed as an inter-pandemic phase activity). Appendices provide worksheets and guidance for developing these estimates. Storage facilities will be assessed, and the "vaccine distribution plan" will be reviewed and updated (inter-pandemic phase activities). The "vaccine delivery program" will be fully activated during the pandemic phase. Details of this program are not specified.

South Carolina: The Department of Health and Environmental Control "will control the allocation and distribution of influenza vaccine." Plans for storage, distribution, and administration of the vaccine are to be developed as a pre-pandemic phase activity. The plan outlines needs for increasingly specific procedures to be developed and implemented during successive pandemic phases.

Tennessee: Vaccine will be received and distributed in accordance with the state's SNS plan and "integrated" with the state's post-event smallpox plan. The storage capacity of the state's Immunization Program warehouse and four regional state laboratory facilities is documented, and these facilities would serve as distribution points to counties. Vaccine will be administered at 117 "mass vaccination clinic sites." The plan lists criteria for selecting these sites (to have been identified by 12/2002), includes descriptions of key staff roles at these sites, and describes training procedures. Volunteer nurses (to be identified by the Tennessee Nurses Association) will be enlisted to assist with vaccine administration. In some areas, non-medically trained volunteers may be needed to assist in vaccine administration, and licensure requirements would be waived. The plan provides guidance for clinic operations and client flow management. The plan considers two pandemic scenarios a "doomsday" scenario (a 1918-like pandemic) or a "significant genetic drift" scenario (a 1957- or 1968-like pandemic), and the intensity of vaccine demand and response is anticipated to vary depending on the nature of the pandemic.

How will states proportion vaccine between public and private providers?

Alabama: All vaccines will be distributed through ADPH and administered by county health departments. Mass vaccination sites and clinic coordinators have been pre-identified by the counties.

Florida: The plan anticipates that vaccine will be administered by county health departments and local healthcare providers. "Florida DOH will determine all vaccine allocations in order to stay abreast of inventory both in the pharmacy and county-wide. This will enable re-distribution as needed to areas in need." The balance between allocations to public and private providers will be determined when more information is available, although "it is likely that the public sector will take responsibility, at a minimum, for vaccinating health care workers, other 'local responders,' certain essential community servants, the poor, and the uninsured."

Georgia: To be determined.

Kentucky: Distribution to "community partners" will be the responsibility of local health departments. Guidance in the plan anticipates that this will include a mix of public and private providers.

Mississippi: Not stated

North Carolina: Not stated

South Carolina: "Public health clinics will be the predominant locations for influenza vaccine administration during the first month of vaccine availability..."

Tennessee: Mass vaccination clinics would be managed by public health.

How will vaccine stores, distribution, and use be monitored, what is the role of the state's immunization registry?

Alabama: Not stated

Florida: County health departments would be responsible for tracking use.

Georgia: The state's immunization registry will be considered as a mechanism to monitor vaccine use.

Kentucky: County health departments would be responsible for tracking use.

Mississippi: Vaccine supplies would be tracked in accordance with procedures established in the state's SNS plan.

North Carolina: Local health departments will submit weekly reports to the state using "Vaccine Doses Administered Forms" provided in a plan appendix.

South Carolina: Record keeping procedures are to be developed as a pre-pandemic phase activity.

Tennessee: Staff for data management and analyses is specified, including monitoring service use, although it is not clear whether this refers to tracking vaccine distribution and use.

Is there a plan for redistributing vaccine if necessary (e.g., post-distribution shifting of available vaccine among health departments or private providers)?

Alabama: Not stated

Florida: County health departments would be responsible for redistributing vaccine if necessary and for developing local redistribution plans.

Georgia: Not stated

Kentucky: County health departments would be responsible for redistributing vaccine if necessary and for developing local redistribution plans.

Mississippi: Not stated

North Carolina: The state will provide technical assistance to local health departments "in need of redistributing vaccine to providers outside their jurisdiction."

South Carolina: Not stated

Tennessee: Not stated

How will allocation of vaccine be prioritized among potential vaccine recipients? Plans listed priority groups but noted that these would be subject to change pending further guidance from CDC.

Alabama: Priority groups are:

- Persons involved in medical/public health evaluation, care or transportation of cases
- Laboratory personnel involved in collecting or processing clinical specimens
- Emergency Responders
- Selected law enforcement personnel
- Military personnel
- Other specified groups that provide essential community services
- Persons at high risk for morbidity and mortality from influenza

Florida: Subject to vaccine availability, priority groups include:

1. Health care workers and public health personnel involved in the distribution of vaccine
2. Persons responsible for community safety and security.
3. Other persons with specialized skills that provide essential community services.
4. Persons traditionally considered being at increased risk of severe influenza illness and mortality.
5. Persons who, in the judgment of state and local health officials, provide critical community services.
6. Household contacts of persons with high-risk medical conditions and household contacts of persons in the first three groups.
7. Pre-school age children (especially those attending daycare centers)
8. Healthy persons between the ages of 18 to 64

Georgia: The plan defers to pending CDC guidance. If CDC guidance is not available when needed, the plan describes a process for the state to set priorities.

Kentucky:

1. Health care workers and public health personnel involved in the distribution of vaccine
2. Persons responsible for community safety and security.
3. Highly skilled persons who provide essential community services.
4. Persons traditionally considered being at increased risk of severe influenza illness and mortality.
5. Persons who, in the judgment of state and local health officials, provide critical community services.
6. Household contacts of persons with high-risk medical conditions and household contacts of persons in the first three groups.
7. Healthy persons between the ages of 18 to 64
8. Pre-school age children (especially those attending daycare centers)

Mississippi: "The identification of vaccine recipient groups will be based on state and national threat assessments in close consultation with governmental authorities at the local, state, and federal levels."

North Carolina: Plan cites the goals of DHHS draft response plan:

- Goal 1: Maintain the ability to provide quality health care, implement pandemic response activities and maintain vital community services.
- Goal 2: Protect persons at highest risk for influenza mortality.
- Goal 3: Decrease transmission of infection to those at highest risk for influenza mortality.
- Goal 4: Maintain other important community services.
- Goal 5: Protect the susceptible population at large

South Carolina: Priority groups will be determined following ACIP guidance.

Tennessee: "The rank order of high priority groups who will receive influenza vaccine in a pandemic will be as follows: (1) "essential community servants" (e.g., key government officials, policemen, firemen, and emergency medical services and military personnel); (2) medical care providers; (3) persons traditionally considered to be at increased risk of severe influenza illness and mortality; (4) infants less than one year of age and pregnant women; (5) all other groups for whom vaccination has been traditionally recommended; (6) preschool age and school-age children; and (7) persons age 18 years or older who do not fall into any high risk group."

Key Issues for Vaccines Workgroup

- State plans vary considerably in terms of level of detail provided, documented status of planning efforts for vaccine programs, dependence on SNS distribution protocols, dependence on current immunization program procedures, inclusion of private facilities and providers in vaccine distribution and delivery programs, program dimensions emphasized in the plans, and degree of state-level centralization versus decentralization to counties of program management responsibility. This variability may reflect uncertainties regarding the availability of vaccine and CDC purchase and distribution policies, differences in underlying assumptions about the number of doses that may be available, differences in state and local public health infrastructures, differences in the respective roles of state and local public health departments, differences in current state and local

health department procedures for purchasing and distributing influenza vaccines,¹⁵ and differences in the dates of preparation of the state plans.

- The timing of this review does not allow comparison with the updated HHS pandemic influenza plan issued on November 2, 2005, but this should be a next step.
- The discussion group should consider whether it would be feasible or useful to clarify which vaccine preparation steps are priorities and to propose timelines for completion of these activities.
- If demand exceeds supply among people identified as members of priority groups, can "super" priority groups be identified?

Anitvirals

While the state plans for antiviral medications reflect vaccine plans, including proposed priority groups, they are generally less developed given greater uncertainties about the role of the federal government in controlling, securing, purchasing, and distributing these drugs. State vaccination programs provide a precedent for purchasing and distributing vaccines, and this precedent shapes planning for influenza vaccinations programs. In contrast, the purchase and distribution of antiviral drugs is largely a healthcare sector, rather than public health, function. The plans start with the assumption that the neuraminidase inhibitor class of antiviral drugs will be required, that demand will exceed supply, that prophylactic use of these drugs will be most critical between the time that a pandemic strain arrives in the United States and a vaccine is available, and that prioritization strategies must balance prophylactic and therapeutic uses. One plan (Alabama) referenced the June 2005 NVAC/ACIP recommendations for prioritizing vaccine and antiviral use and for developing a national antiviral stockpile, despite the limits of evidence regarding the likely impact of these medications.¹⁶

Alabama's plan is illustrative of phase-specific recommendations regarding antivirals:

Pre-Pandemic Phase. "Promote the establishment of private pharmacy antiviral stockpiles."

Pandemic Alert. "Collaborate with CHD [county health department] and private sector providers to ensure that identified high-risk groups and others receive vaccine and antiviral medications."

Pandemic Imminent. "Implement surveillance and data collection for adverse events following use of antivirals and drug-resistant strains of influenza."

Pandemic. "Monitor antiviral adverse events weekly and transmit information to the CDC so that unexpected adverse events can be detected early and antiviral recommendations altered according to federal recommendations."

¹⁵ Gazmararian JA, Orenstein W, Wortley P, et al.. Preventing influenza: vaccine systems and practices in the Southeast. Unpublished manuscript, submitted (July 2005) to *Public Health Reports*.

¹⁶ Letter from the Chair of the National Vaccine Advisory Committee to the Acting Assistant Secretary for Health, HHS regarding the NVAC/ACIP – July 19, 2005 Joint Committee Meeting. Available at URL: <http://www.hhs.gov/nvpo/nvac/documents/chairletter.pdf>.

The Alabama plan further recommends that antivirals be used primarily for treatment rather than prophylaxis due to anticipated limitations in supply, except for “persons who are at greatest risk of severe illness and complications from influenza.”

Reflecting uncertainties about the federal role in purchasing and distributing antiviral drugs to states, the Georgia plan considers six possible options for acquiring antivirals and their attendant implications for use:

Option 1: Purchase a small stockpile at the state level

Option 2: Receive apportionment from CDC purchase

Option 3: [Receive an allotment form] The Strategic National Stockpile

Option 4: Provide a recommendation to facilities (Long Term Care Facilities (LTCF), assisted living, hospitals, large companies) [to directly purchase antiviral drugs]

Option 5: Public Health partners with a Pharmacy or Pharmacy organization [to purchase antiviral drugs]

Option 6: Place a reserve at the State Approved Pharmaceutical Distributor Warehouse [the state would not purchase drugs but would pay a storage and processing fee to the distributor. The distributor would sell drugs held in reserve to facilities identified by the Division of Public Health]

Key Issues for Antivirals Workgroup

- The timing of this review does not allow comparison with the updated HHS pandemic influenza plan issued on November 2, 2005, but this should be a next step.
- Whether to purchase and stockpile antiviral drugs is a question confronting health departments, hospitals, and other providers. What guidance can be offered to health departments seeking to address this question or to advise hospitals and other providers in their jurisdictions?
- How should prophylactic use versus therapeutic use be prioritized?
- If demand exceeds supply among people identified as members of priority groups, can "super" priority groups be identified?

Animal/Human Interface

Four plans (Alabama, Georgia, North Carolina, South Carolina) describe the roles of departments of agriculture and/or veterinary laboratories at local universities in monitoring animal health and responding to animal health threats. Three of these plans (Alabama, Georgia, North Carolina) describe current and anticipated links between public health and agriculture departments in the event of suspect influenza illness in poultry. In this regard, the Alabama plan is the most detailed:

“The Alabama Department of Agriculture and Industry (ADAI) have [sic] developed a Procedure Manual for the Initial Outbreak of Avian Influenza. ADAI conducts surveillance for avian influenza by serology and by virus isolation. In 2004, ADAI tested over 91,000 chickens for avian influenza. If a positive test was discovered through screening and testing, the ADAI’s State Veterinarian will contact the ADPH’s Veterinarian in the Epidemiology Division. If the ADPH’s BCL receives a positive human specimen for avian influenza, ADAI would be contacted immediately to assist with case investigation in the poultry population.”

“If an outbreak of avian influenza is identified in Alabama, the ADPH Veterinarian will work with the Alabama Department of Agriculture and Industries (ADAI) to communicate with poultry producers and processors to monitor human populations who are at risk of becoming infected. ADPH will make recommendations for individuals who may be involved in culling operations, including recommendations for appropriate personal protective equipment (PPE), disinfection, and surveillance for human illness.”

Although not described in the Georgia plan, a tabletop exercise involving an avian influenza agro-terrorism scenario was conducted in July 2005 in a region of the state with a large poultry industry. Because many poultry workers in Georgia are recent Hispanic immigrants to the United States and because this region has a large Hispanic community, it was essential that public health addressed the needs and concerns of that community. This may include fears of deportation among those with undocumented immigration status and their attendant reluctance to seek health care or collaborate with government authorities in an epidemic investigation or, in the event of suspect agro-terrorism, a criminal investigation.¹⁷

Key Issues for the Animal/Human Interface Workgroup

- If a highly pathogenic strain of H5N1 reaches commercial poultry flocks in the United States, either from a naturally occurring exposure or an act of agro-terrorism, responding to the potential threat to human health would require close collaboration between human and animal health authorities. What is the status of partnerships among public health and animal health authorities and human and veterinary scientists? Can recommendations be made to strengthen these links?
- Is it possible to assess the likelihood of natural spread of H5N1 infections from currently affected regions of the world to the United States and the Southeast?
- Depending on the nature of the poultry industry workforce in a state, the capacity of public health agencies to work effectively with minority racial/ethnic or immigrant communities will be essential.

LIMITATIONS

This report is based primarily on information provided in state pandemic influenza plans as posted on the Internet by the Council of State and Territorial Epidemiologists. To the extent that relevant information is provided in other documents or not documented, including updates from ongoing planning activities, this report will misrepresent the status of pandemic influenza planning and preparedness activities in the eight SECEBT partner states.

¹⁷ Author's observation based on participation in the development, execution, and evaluation of the exercise as a member of a collaborative team representing the Georgia Division of Public Health, the RAND Corporation, and the Rollins School of Public Health of Emory University.

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