New York City Department of Health and Mental Hygiene

Pandemic Influenza

Preparedness and Response

Plan

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07.06

Contents

Letter From Mayor Bloomberg I

Letter From Commissioner Frieden II

Executive Summary III

Acronyms IX

Section 1. Command, Control, and Management Procedures 1

Section 2. Surveillance and Epidemiologic Response 9

Appendices

2A. Interim case definition and testing guidelines for suspected H5N1 cases in the United States 35

2B. NYC DOHMH guidance for providers on managing suspected H5N1 influenza cases 37

2C. Management of patients presenting with communicable diseases of urgent public health concern 48

2D. H5N1 avian influenza protocol for on-call physicians 65

2E. Avian and non-human animal surveillance for highly pathogenic avian influenza 81

2F. Surveillance and epidemiologic responsibilities during a pandemic 93

Section 3. Laboratory Diagnostics 95

Appendices

3A. Nasopharyngeal specimen collection for viral respiratory pathogens 102

3B. Virus detection laboratory submission form 103

Section 4. Community Control and Response 104

Section 5. Health Care Planning and Emergency Response 111

Appendices

5A. Sequence of steps taken by BHPP to develop automated notification system for senior level NYC hospital staff 148

5B. NYC DOHMH guidance document for development of protocols for managing patients presenting to EDs and clinics with potentially communicable diseases of public health concern 149

5C. Model memorandum of understanding regarding sharing of personnel during a disaster 164

5D. Utilizing volunteers during a disaster 168

5E. Legal issues related to hospital response during a disaster 171
5F. Model disaster privileges policy 183
5G. Interim guidance for home caregivers of influenza patients during a pandemic 185

Section 6. Delivery of Antiviral Drugs 186

Appendices

6A. Antiviral agents for influenza: background information for clinicians (CDC Fact Sheet) 194
6B. NYC DOHMH advises against prescribing antiviral medications for personal stockpiling 200
6C. Algorithm for pandemic influenza treatment: outpatient setting early pandemic — no NYC cases 204
6D. Algorithm for pandemic influenza treatment: outpatient setting early pandemic — NYC cases geographically contained 205
6E. Algorithm for pandemic influenza treatment: outpatient setting. pandemic widespread in NYC 206
6F. Recommended daily dosages of antivirals for treatment and prophylaxis 207

Section 7. Vaccine Management 209

Section 8. Mental Health Response 218

Appendices

8A. Special needs populations 227
8B. Current status of resources 229

Section 9. Communications 231

Appendices

9A. Questions and answers about avian flu: English 237
9B. Questions and answers about avian flu: Spanish 241
9C. Questions and answers about avian flu: Chinese 244
9D. Questions and answers about avian flu: Russian 247

THE CITY OF NEW YORK
OFFICE OF THE MAYOR
NEW YORK, NY 10007

July 10, 2006

Dear Fellow New Yorker:

New York City is a national leader in public health preparedness, and the possibility of pandemic flu is one we take seriously. Although a pandemic could turn out to be no worse than a bad flu season, in a worst-case scenario, the human, social, and economic costs could be enormous.

The attached Pandemic Influenza Preparedness and Response Plan, prepared by the Department of Health and Mental Hygiene, will guide the City's response in the event of a pandemic. Many New York City agencies would be involved in a pandemic response, particularly the Office of Emergency Management, the Health and Hospitals Corporation, the Police Department, the Fire Department, and the Department of Citywide Administrative Services.

In the event of a flu pandemic, we are committed to getting accurate information to the public as quickly as possible. I am confident that this plan will help us detect a pandemic quickly, minimize the spread of infection, maximize the chance of healthy recovery of those who need care, continue core City services, and facilitate business continuity to the greatest extent possible.

The development of this plan, coupled with response initiatives being undertaken by various City agencies, will help ensure that New Yorkers will be less likely to get sick and more likely to get appropriate medical care in the event of a pandemic. This plan will help us minimize disruption in day-to-day business, services, and activities and ensure that the health and safety of all New Yorkers is our top priority. We wanted to share our plan with you and your families as we work together to prepare should a pandemic occur in our City. Thank you.

Sincerely,

Michael R. Bloomberg
Mayor

07.06

THE CITY OF NEW YORK

DEPARTMENT OF HEALTH AND MENTAL HYGIENE

Michael R. Bloomberg
Mayor

Thomas R. Frieden, M.D., M.P.H.
Commissioner

nyc.gov/health

July 10, 2006

Dear Fellow New Yorker:

For virtually all of our nation's history, New York City has been its most densely populated city and a major port of entry for both people and goods. As such, we are uniquely vulnerable to infectious disease threats and because of this have long been at the forefront of emergency preparedness planning. Since 9/11, our need to be as prepared as possible has been even more apparent.

Recently, there has been growing concern about the possibility of pandemic flu, in particular the H5N1 strain of avian influenza (bird flu) present in some countries. In light of this, the New York City Department of Health and Mental Hygiene has prepared this Pandemic Influenza Preparedness and Response Plan.

While there is no current threat of an outbreak of H5N1 or any other pandemic flu strain, we may experience one at some point in the future. This Plan provides the framework for a swift and coordinated response that will help protect the health of New Yorkers to the fullest extent possible.

Our past experience with disease outbreaks has given us extensive knowledge of what we can likely expect and specific steps we will need to take in the event of a future outbreak. Because of the unpredictability of a flu pandemic, however, we cannot say for certain exactly what may happen, or when. As a result, this Plan is intended to be adaptable, with details subject to change. This will allow us to provide the best possible response to a pandemic if one should occur.

Should we experience an influenza pandemic, your support will be critical to effective implementation of this Plan. We will make sure that all New Yorkers are kept fully apprised of any situation as it develops and are continually provided with accurate, up-to-date information to help keep disease spread to a minimum.

Sincerely,

Thomas R. Frieden, MD, MPH
Commissioner of Health and Mental Hygiene

07.06

Executive Summary

The most densely populated city in the United States and a major international port of entry, New York City (NYC) has long been vulnerable to infectious disease threats, whether naturally occurring or intentional. In the event a novel influenza strain develops the capacity for efficient human-to-human transmission anywhere in the world, it would not take long to reach NYC. Such an outbreak poses wide-ranging challenges, including the potential for huge numbers of illnesses and deaths, a severely strained health care system, and difficult psychosocial consequences for a large proportion of the population, especially the homeless, the homebound, and other vulnerable New Yorkers.

Aware of our susceptibility, the New York City Department of Health and Mental Hygiene (NYC DOHMH) has for many years placed great emphasis on emergency preparedness planning, even before 9/11. Working closely with our colleagues in the emergency services, health care, business, and not-for-profit sectors, DOHMH continues to engage in extensive preparedness efforts — more than 50 tabletop, functional, and full-scale exercises in the past 5 years — to test, assess, and strengthen our response capabilities.

The NYC DOHMH Pandemic Influenza Preparedness and Response Plan draws on lessons learned from these efforts, providing a comprehensive, scalable, and flexible strategy to protect the health of New Yorkers.

A PANDEMIC WILL TRIGGER PRE-ESTABLISHED COMMAND STRUCTURES

An influenza pandemic, or the threat of one, will trigger certain pre-established preparedness structures:

- The Citywide Incident Management System (CIMS), working closely with state and federal agencies, will provide a unified command structure to coordinate NYC's response. This structure comprises, in addition to DOHMH, the NYC Fire Department (FDNY) and the NYC Police Department (NYPD), the Health and Hospitals Corporation (HHC), the Greater New York Hospital Association (GNYHA), and many other agencies.
- DOHMH will activate its Incident Command System (ICS), a set of Agency-wide on-call teams established to provide the highest level of coordinated response.

FOUR PRIMARY GOALS

Through its readily mobilized group of trained and dedicated professionals, in partnership with federal, state, and local agencies, DOHMH will help the City detect, respond to, and recover from an influenza pandemic by focusing activities to support 4 primary goals:

07.06

1. Limit severe illness and death from influenza
2. Work with health care partners to support appropriate influenza evaluation and care
3. Maintain essential medical services
4. Communicate rapidly, accurately, and frequently with the public, the medical community, and others using all available media

Through extensive discussions with local, state, and federal authorities, and based on certain assumptions (see Box, Planning Assumptions), NYC DOHMH has identified 9 strategic planning areas that, together, provide a comprehensive framework for response. Some components (for example, activities that involve suspension of local law) would require an action by the Health Commissioner, the Mayor, and/or the Governor. For more detail, see individual Sections of the Plan.

PLANNING ASSUMPTIONS

The Plan is based on the following general assumptions identified by the DOHMH Pandemic Influenza Planning Committee in collaboration with the NYC Office of Emergency Management and other NYC government agencies:

- A pandemic is likely to occur in waves, each lasting approximately 8 weeks and separated by many weeks of relative inactivity.
- A pandemic will place great strains on existing health care resources, including space, personnel, and supplies.
- Infection will occur in up to 30% of the population. Infection rates will be highest in school-aged children (40%) and decline with age. An average of 20% of working adults will become ill.
- Half of those infected will require outpatient medical care and 11% will be hospitalized. (These estimates may differ greatly, depending on the severity of the outbreak.)
- The case fatality rate will be approximately 2.1%.
- Vaccine will likely not be available for 6 to 9 months after the pandemic strain is detected. Vaccine will probably be administered as a 2-dose regimen, 30 days apart, to achieve optimal immunologic response.
- In the early pandemic stages, before vaccine becomes available, community containment strategies will be the most effective available measures.
- Antiviral medications, likely in short supply, will be used for treatment, not prophylaxis.
- To maximize the impact of limited supplies, vaccine and antiviral drugs will be distributed according to priorities established by the federal government.

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NINE STRATEGIC PLANNING AREAS

1. Command, Control, and Management Procedures

The DOHMH's Incident Command System (ICS) will provide a unified command structure to facilitate and streamline response. The ICS is headed by an Incident Commander (IC) who oversees the following 10 Sections: Environmental, Finance, Information/Technology, Laboratories, Logistics, Medical/Clinical, Mental Health, Planning, Public and Provider Information, and Surveillance and Epidemiology.

The ICS will activate if there is evidence of a pandemic in NYC or nearby jurisdictions, and the IC and Section Heads will develop an Incident Action Plan (IAP) to define the Department's operational response. The Plan will be modified as needed based on epidemiologic, clinical, and other characteristics of the pandemic. The IC will stay in close contact with the 10 Section Heads and other. top Agency heads throughout the pandemic, from response and mobilization, to recovery and demobilization. Major decisions will be made by the Mayor in conjunction with leadership in the CIMS.

2. Surveillance and Epidemiologic Response

To monitor influenza-like illness activity, DOHMH routinely tracks outpatient visits among sentinel providers, influenza laboratory test results, influenza-related deaths, and (using electronic data on ambulance dispatch, emergency department visits, and pharmacy purchases) trends in fever and respiratory illness. To detect the introduction of novel strains such as avian H5N1, DOHMH educates health care providers to be alert for patients presenting with fever and respiratory symptoms, to ask about travel history and other risk factors, and to report to DOHMH cases that meet surveillance criteria.

Should a pandemic arrive in NYC, the Surveillance and Epidemiology (S&E) Section of the ICS will activate, significantly ramping up surveillance activities. For example, in a pandemic, the S&E will monitor trends in influenza-related hospitalizations and deaths, and conduct investigations to describe the epidemiologic and clinical features of the outbreak (e.g., age-related morbidity and mortality trends, transmission factors, predictors of survival, antiviral resistance and vaccine failures, and unexpected complications).

DOHMH will use information collected in these ways to monitor shifts in the pandemic strain, to detect a second pandemic wave, and to guide clinical and public health decisions, including how best to use limited medical resources such as antiviral drugs and ventilators.

3. Laboratory Diagnostics

Current planning efforts are focused on increasing capacity to provide accurate and rapid laboratory diagnostic testing for seasonal influenza. There are 66 NYC hospital and commercial laboratories licensed to perform influenza testing. Ten NYC labs, including the Public Health Laboratory (PHL), have virus isolation capacity. In addition, 30 Community Health Centers are permitted to perform certain tests and have been provided with influenza diagnostic test kits and specimen transport materials.

In the event of a pandemic, the Laboratories section of DOHMH's ICS will reassign staff to provide round-the-clock laboratory operations. Both routine and high-volume throughput polymerase chain reaction (PCR) instrumentation will be employed.

4. Community Control and Response

DOHMH will assess epidemiologic, clinical, and behavioral characteristics of the pandemic strain and make recommendations for containment measures to limit spread, morbidity, and mortality, while minimizing social disruption and cost. School closures, cancellation of large public gatherings, and hygiene advisories (hand washing, wearing of masks) are examples of measures that might be taken, if indicated.

5. Health Care Planning and Emergency Response

In the event of a pandemic, hospitals and other health care facilities will be called on to provide care for large numbers of infected New Yorkers. Planning has focused on the development of surge capacity in acute and critical care, as well as enhancing redundant mechanisms for communication between DOHMH staff and health care facilities and providers. Facilities incorporated into this planning effort include emergency medical services, home health agencies, hospitals, long-term care facilities and primary care centers.

During a pandemic, surge plans will be activated, and DOHMH will work with the New York State Department of Health (NYS DOH) and other key partners to monitor and address staffing, supply, and equipment resource needs. In addition, DOHMH will provide guidance to hospitals for managing patient surge and implementing screening and isolation protocols. In close coordination with NYS DOH, when indicated, DOHMH will also provide guidance on altering standards of care to help maximize the ability of the health care system to provide care to those most likely to benefit.

6. Delivery of Antiviral Drugs

In the event of a pandemic, antiviral drugs will be requested from the Strategic National Stockpile (SNS) for distribution to health care facilities that are treating pandemic flu patients. Because of limited supplies, antiviral drugs are expected to be used only for treatment, not for prophylaxis. It is anticipated that their use will be restricted for treatment of individuals who have been symptomatic for less than 48 hours and who meet the priority criteria defined by the U.S. Department of Health and Human Services. Vulnerable populations (e.g., children, homebound persons) will have equal access to treatment with antiviral drugs through plans that address these populations' specific needs. Pre-established prioritization for the drugs may change, depending on the epidemiologic and behavioral characteristics of the pandemic virus strain.

7. Vaccine Management

Vaccine will likely not be available until 6 to 9 months after a pandemic is detected. It is expected that initial supplies will be limited in quantity and under the control of the federal government. Depending on the availability of vaccine, DOHMH will use distribution systems that may include hospitals, clinics, nursing homes, health care facilities, points-of-distribution, and private physicians' offices.

8. Mental Health Response

An influenza pandemic would have far-reaching psychosocial consequences for a large proportion of the population. DOHMH's Office of Mental Health Disaster Preparedness (MHDPR) has been created to contend with mental health aspects of City-wide emergencies such as an influenza pandemic.

Assuming that all New Yorkers will be affected to some degree during a pandemic, DOHMH is focusing first on the need to build personal and community resilience to weather a pandemic by promoting emergency preparedness. Interventions will be targeted to communities, to physicians and other front-line health care workers, and to populations such as children, the homeless, and the homebound who may be especially vulnerable to mental health consequences of a pandemic.

9. Communications

Given the many urgent and evolving issues presented by a pandemic in NYC, the need for clear, consistent, frequent, and dependable communications will be critical in all phases. DOHMH will utilize all available media to deliver appropriate messages to New Yorkers, including, in addition to radio, TV, and the press, the City's 311 system, public education tools, and the DOHMH Web site. DOHMH will define, test, and prepare communications tools in advance, train key staff in crisis and risk communication, and maintain relationships with critical community partners. Language needs for materials have been identified and messages will be developed to meet the needs of special and vulnerable populations.

IMPORTANT CHARACTERISTICS OF THIS PLAN

This Plan was drafted by the NYC DOHMH Pandemic Influenza Planning Committee in collaboration with the NYC Office of Emergency Management, with guidance from the Centers for Disease Control and Prevention, and in consultation with business, health, and social services sectors. It follows recommendations of the U.S. Department of Homeland Security's *National Strategy for Pandemic Influenza* and the U.S. Department of Health and Human Services' *HHS Pandemic Influenza Plan*, both published in November 2005. Also incorporated are changes made in the 2005 World Health Organization (WHO) classification of pandemic phases. The activities described in this Plan correspond to the WHO's 6 phases of pandemic influenza (Table).

Because specific epidemiologic, clinical, and behavioral characteristics of a pandemic influenza strain cannot be known before the strain is identified, this and other preparedness plans must be flexible, adaptable, and based on the best available practices. This Plan is therefore subject to continuous evaluation and constant change.

For the most recent version of this Plan, visit nyc.gov/health.

TABLE: PANDEMIC PERIODS AND PHASES

Source: WHO Global Influenza Preparedness Plan (2005)

Interpandemic period

Phase 1. No new influenza virus subtypes have been detected in humans. An influenza virus subtype that has caused human infection may be present in animals. If present in animals, the risk of human infection or disease is considered to be low.

Phase 2. No new influenza virus subtypes have been detected in humans. However, a circulating animal influenza virus subtype poses a substantial risk of human disease.

Pandemic alert period

Phase 3. Human infection(s) with a new subtype, but no human-to-human spread, or at most rare instances of spread to a close contact.

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

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

Pandemic period

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

07.06

Acronyms

BCD	Bureau of Communicable Disease
BEM	Bureau of Emergency Management
BHPP	Bioterrorism Hospital Preparedness Program
BIIT	Bureau of Information Integration Technology
BSL	Biosafety Level
CDC	Centers for Disease Control and Prevention
CHC	Community Health Centers
CHCANYS	Community Health Care Association of New York State
CHI	City Health Information
CIR	City-wide Immunization Registry
CIMS	City-wide Incident Management System
DCAS	Department of City-wide Administrative Services
DEOC	Department Emergency Operations Center
DHHS	U.S. Department of Health and Human Services
ECLRS	Electronic Clinical Laboratory Reporting System
ED	Emergency Department
EMS	Emergency Medical Service
EMTALA	The Emergency Medical Treatment and Active Labor Act
EOC	Emergency Operations Center
ESAR-VHP	Emergency System for Advanced Registration of Health Professionals
FAC	Family Assistance Centers
FDA	U. S. Food and Drug Administration
FDNY	Fire Department New York
FQHA	Federally Qualified Health Centers
GNYHA	Greater New York Hospital Association
HAN	Health Alert Network
HEICS	Hospital Emergency Incident Command System
HERDS	Health Emergency Response Data System
HHC	Health and Hospitals Corporation
HRSA	Health Resources and Services Administration
IAP	Incident Action Plan
IC	Incident Commander
ICS	Incident Command System
ILI	Influenza-like illness

Acronyms

IMS	Incident Management System
ISPSN	U.S. Influenza Sentinel Physician Surveillance Network
LRN	Laboratory Response Network
MACC	Metropolitan Association of Contemplative Communities
MHDPR	Mental Health Disaster Preparedness and Response
MH	Mental Health
MOU	Memorandum of Understanding
MRC	Medical Reserve Corps
NP	Nasopharyngeal
NYC	New York City
NYC DOHMH	New York City Department of Health and Mental Hygiene
NYPD	New York City Police Department
NYS DOH	New York State Department of Health
NYS EMO	New York State Emergency Management Office
OCME	Office of Chief Medical Examiner
OEC	Emergency Operations Center
OEM	Office of Emergency Management
OMHDPR	Office of Mental Health Disaster Preparedness and Response
P & I	Pneumonia and Influenza
PCR	Polymerase chain reaction
PHL	Public Health Laboratory
PODs	Points of distribution
PPE	Personal protective equipment
REMSCO	Regional Emergency Medical Service Council of New York City
RSV	Respiratory syncytial virus
S&E	Surveillance and Epidemiology
SNS	Strategic National Stockpile
T-1	Tier 1
T-2	Tier 2
UHC	Unified Health Command
URF	Universal Reporting Form
VFC	Vaccines for Children
WHO	World Health Organization
WMD	Weapons of Mass Destruction

Section 1: Command, Control, and Management Procedures

OVERVIEW

This section describes the command and control structures under which the New York City Department of Health and Mental Hygiene (NYC DOHMH) operates during a City-wide emergency. Command and control for the agency is broken into 2 distinct yet inter-related systems: (1) Externally, the agency operates under the City-wide Incident Management System (CIMS) with the Office of Emergency Management (OEM) as the coordinating body; (2) Internally, the agency uses the Incident Command System (ICS), an incident command and management structure developed to facilitate and streamline emergency response during times of a public health emergency.

City-wide Incident Management System

CIMS is an incident management doctrine for managing emergency incidents and planned events in New York City (NYC). CIMS establishes roles and responsibilities and designates authority for City agencies performing and supporting emergency response.

CIMS is designed to be scalable and to facilitate integration of additional organizations, including state and federal agencies, and private sector and non-profit organizations.

NYC's public safety agencies typically perform their daily responsibilities using their own resources. However, City agencies frequently respond to more complex multi-agency and multi-jurisdictional incidents that are successfully addressed through the cooperation of several City, state and federal agencies, and non-profit and private sector organizations. Further, there is a heightened need for NYC's response agencies to be integrated with regional and national emergency preparedness and response organizations.

Unified Command

Under CIMs, a City-wide public health emergency would be managed under a Unified Command. DOHMH, NYPD, and FDNY are the primary agencies involved; HHC and GNYHA are potential primary agencies and/or subject matter experts.

Each agency in the Unified Command will designate an Incident Commander who will jointly set incident objectives with the other Primary Agencies.

Unified Command is an important element in improving multi-jurisdictional or multi-agency incident management. As a combined command and management effort, Unified Command overcomes much of the inefficiency and duplication of effort that can occur when agencies from different functional and geographic jurisdictions, or agencies at different levels of government, operate without a common organizational framework.

Core Competencies

Core Competencies are functional areas of expertise which are implemented during incidents. Agencies have the authority to direct operations related to their Core Competencies during incidents. OEM has outlined the following Core Competencies for DOHMH in CIMS:

- Disease Surveillance and Epidemiology
- Public Health Orders, Clinical Guidance, and Risk Communication
- Mass Prophylaxis / Vaccination
- Laboratory Testing (Biological and Radiological)
- Public Health Assessment
- Environmental Mitigation (Radiological and Biological)
- Animal-Related Surveillance and Vector Control
- Mental Health Needs Assessment and Service Coordination

Mutual Aid

In addition to enacting mutual aid agreements, requests for assistance would be directed to OEM. DOHMH may utilize pre-existing mutual aid agreements as needed, but would request mutual aid assistance should existing agreements or support become exhausted.

Incident Command System

The role of ICS is to facilitate rapid and coordinated decision-making, as well as efficient communications and information dissemination. The ICS has been used during real emergencies and events (9/11, anthrax outbreaks, the Republican National Convention) and modified as needed based on these experiences.

The ICS is headed by an Incident Commander (IC) who oversees the following 10 Sections:

- Environmental
- Finance
- Information/Technology
- Laboratories
- Logistics
- Medical/Clinical
- Mental Health
- Planning
- Public and Provider Information
- Surveillance and Epidemiology

Each of these functional Sections is led by an ICS Section Head who is a senior staff member from their respective department. For each ICS Section, an organizational structure has been developed that designates emergency-specific core job functions and responsibilities specified in Job Action Sheets (Appendix 2C). During emergencies, the primary command and control location for DOHMH operations is the Department Emergency Operations Center (DEOC). Use of the DEOC enhances the Agency's ability to respond to an emergency event and sustain its critical public health functions. The DEOC is designed to provide a secure, well-equipped workspace for DOHMH ICS leadership during an emergency activation.

OBJECTIVES

The overall objectives of DOHMH in pandemic flu planning are to develop specific plan priorities and operations, and assign specific responsibilities to appropriate Sections. DOHMH also works to achieve buy-in from the public and private sectors, coordinates with groups that represent special populations, identifies gaps in resources, addresses legal considerations, and modifies the plan as needed during a pandemic.

Coordination and Control

In addition to working with NYPD, FDNY, GNYHA, and HHC as outlined in CIMS, response activities would be closely coordinated with New York State Department of Health (NYS DOH) and New York State Emergency Management Office (NYS EMO) under a Unified Command with OEM as the City's Coordinating Agency. While most decisions regarding a local response to a pandemic would rest with NYC, decisions regarding hospitals and other Article 28 facilities (those engaged in the prevention, diagnosis, and treatment of human disease, pain, injury, deformity, or physical condition) would be under the authority of NYS DOH.

Decision-Making Strategy

The decision to implement various sections of this pandemic flu plan will be made based on (1) the current status of the pandemic overseas, (2) if a pandemic is declared by the World Health Organization (WHO), and (3) the proximity of the pandemic to NYC. The authority of the Mayor, the Board of Health, or the Governor is required to activate certain measures outlined in the pandemic phase sections of this plan.

ROLES AND RESPONSIBILITIES

DOHMH will activate ICS and implement pandemic plan operations from the DEOC under the leadership of the designated Incident Commander (IC) who is responsible for incident management and coordination with the other responding agencies as outlined in CIMS. Each ICS Section is responsible for performing its specific functional role in accordance with the imperatives of the incident and the directives of the IC.

ICS Section Heads will regularly convene under the leadership of the IC at the DEOC. The role of CIMS is to facilitate rapid and coordinated decision-making, as well as efficient communications and information dissemination. The IC and ICS Section Heads will develop an Incident Action Plan and define Operational Periods to guide DOHMH response to the incident, making adjustments as the event unfolds. Emergency operations evolve over time, from response and mobilization, to recovery and demobilization.

During non-emergency periods, the ICS Section Heads are actively involved in agency-wide emergency preparedness and planning efforts, development of their ICS Section's organizational structure, and ongoing refinements to DOHMH ICS.

CHALLENGES

Maintaining public order; mandating actions in accordance with existing laws; effective communication; coordination of local, state and federal agencies; and effecting streamlined response, recovery, and mitigation procedures are key challenges in an influenza pandemic scenario.

Communications

A Commissioner or Mayoral Advisory, Alert, or Press Release would be considered for distribution to enhance public relations and risk communications.

Legal Considerations and Extenuating Circumstances

Ongoing discussions to identify and address legal issues have been held by DOHMH's Legal Division. Draft legal orders and regulations are being written to address issues around isolation, quarantine, movement restriction, health care services, emergency care, and mutual aid.

- Actions mandated by DOHMH that are not at odds with existing laws and do not require detainment of individuals (in accordance with Health Code section 11.55) may be implemented by DOHMH and may involve the Commissioner of Health and/or the Mayor.
- A Mayoral Declaration of Emergency would be sought in the event that a building or jurisdiction needs to be quarantined, or if the number of individuals to be detained or isolated in their homes exceeded compliance with Health Code section 11.55, or if other provisions of the health code or local laws required suspension or promulgation.
- A Gubernatorial Disaster Declaration would be required in the event that state laws needed to be suspended or promulgated (e.g., alteration of state credentialing and/or licensing requirements) in order to operate PODs (points of distribution) or to distribute medications.
- The New York City Police Department (NYPD) would maintain public order and help implement control measures.

PANDEMIC INFLUENZA PLANNING COMMITTEE

A planning committee comprising key representatives from within DOHMH (see below) has been established. The committee is an on-going plan development group but is not intended to replace the ICS in an actual emergency.

- Bureau of Communicable Disease
- Bureau of Immunization
- Bureau of Emergency Management
- Public Health Laboratory

- Office of General Counsel
- BIIT (information technology)
- Operations
- Media/Public Affairs
- Employee's Health Service
- Call Center
- Division of Mental Hygiene
- Division of Epidemiology
- OEM
- Office of the Chief Medical Examiner (OCME)

The committee's initiatives comprise:

- Developing DOHMH pandemic planning based on new information on the H5N1 influenza outbreak overseas and changes in federal and state policy
- Collaborating with the OEM to coordinate with other city agencies in City-wide planning for the pandemic response
- Oversight of planning, response, recovery, and mitigation initiatives
- Ensuring that the City's pandemic flu plan is periodically reviewed and revised as needed

I. Interpandemic Period (WHO Phases 1-3)

The primary focus of DOHMH Pandemic Planning Committee during the interpandemic period is to:

- Address each operational priority
- Ensure that a NYC pandemic plan is developed either as an annex or supplement to an All Hazards Plan (a guide for emergency operations that does not preclude personal initiative, which is often necessary in mitigating a rapidly evolving incident)
- Identify crucial gaps in infrastructure and resources, laws, or statutes which (if not corrected in advance) may interfere with an effective response
- Develop a strategy in advance of the pandemic to inform key government officials, legislators, health care providers, the general public, and various stakeholders of DOHMH pandemic plan to obtain buy-in to the plan, as well as the need to address and resolve identified gaps
- Coordinate planning activities with bordering jurisdictions

- Address considerations that may arise for special populations, in coordination with organizations that represent them
- Periodically review and modify the plan as needed

Objective: Identify and Meet with Partners and Stakeholders

The pandemic preparedness plan must be prepared in close collaboration with, and with buy-in from a wide variety of organizations in the public and private sectors. The goals of DOHMH are to:

- Promote awareness
- Assign specific responsibilities
- Develop specific plan components

As the planning committee has now developed the initial draft of the pandemic flu plan and initial decisions have been made regarding lead responsibilities for planning and implementation, a series of meetings with potential partners and stakeholders has begun.

Informational and directed planning meetings have been held in conjunction with OEM, including the participation of representatives from NYC agencies as well as from the private business community. These meetings seek to ensure a broad understanding of the potential implications of an influenza pandemic, as well as encourage individual agencies and businesses to plan for a prolonged period of employee absenteeism and disruption of normal services.

A list of representative organizations essential to the planning process includes, but is not limited to:

- NYS DOH
- GNYHA
- Nursing associations
- Medical associations
- Pharmacy associations
- Public and private laboratories that may process clinical specimens for influenza
- Regional health departments
- Personnel responsible for communication systems, equipment, networks, and computer hardware and software
- U.S. Department of Education
- Advisory groups to DOHMH
- Local media affiliates
- Radio/CB groups
- Social services agencies
- Volunteer organizations involved in response and recovery in various disasters

- Law enforcement, fire/rescue, and emergency medical agencies
- Religious organizations
- Major unions
- Large industries or employers in the area
- Local aviation authority or others involved in the provision of air support and transport
- Representatives of major public utilities
- The City's Chief Financial Officer, auditor, and heads of centralized procurement and/or resource support agencies

A series of meetings have been held to promote coordination with NYC and with state and regional partners, including:

- Participation in business-sponsored and business continuity meeting
- Interagency meeting with more than 80 agencies and 8 functional groups, including follow-up meetings with each functional group
- NYS coordination meetings
- Regional planning meetings
- Metro surveillance meetings with Connecticut and New Jersey
- Presentation at Weapons of Mass Destruction (WMD) Task Force including discussion of distribution of antivirals and the role of hospitals
- Meetings with GNYHA, including presentation of a pandemic plan with NYS DOH

II. Pandemic Alert Period (WHO Phases 4, 5)

During the pandemic alert period, DOHMH will:

- Continue to meet with appropriate partners and stakeholders and review major elements of the plan
- Modify the plan as needed based on new information about the potential pandemic strain
- Activate enhanced surveillance and provider communications about the need to remain alert for potential travel-related cases due to the novel pandemic strain
- Begin vaccine and antiviral distribution as available and as indicated
- Notify key government officials and legislators of any need for additional monetary resources

III. Pandemic Period (WHO Phase 6)

Upon pronouncement of a pandemic by WHO and/or CDC, DOHMH would activate the ICS.

Response activities will vary depending on whether the pandemic is still primarily affecting countries overseas, is in the United States but not yet in NYC, or if local transmission is documented in NYC. DOHMH will:

- Fully implement the plan or appropriate sections of the plan, as indicated based on the potential threat of introduction into NYC
- Coordinate activities with neighboring jurisdictions
- Interface with appropriate counterparts at the state and national level

Section 2: Surveillance and Epidemiologic Response

OVERVIEW

This section describes the New York City Department of Health and Mental Hygiene's (NYC DOHMH) plans for surveillance and epidemiologic response during interpandemic/pandemic alert and pandemic periods as defined by the WHO (World Health Organization) classification system. For more information, check:
http://www.who.int/csr/resources/publications/influenza/WHO_CDS_CSR_GIP_2005_5.pdf.

During the interpandemic period, influenza surveillance systems focus on monitoring trends in influenza-like illness activity in the community and health care settings, and monitoring influenza-related mortality. Information is used to identify and mitigate outbreaks in institutional settings, as well as to alert the medical provider community regarding the need to prioritize vaccination at the start of the influenza season as well as to guide recommendations regarding the use of antivirals.

Surveillance systems will be expanded as the likelihood of an influenza pandemic becomes more imminent. In the early phases, surveillance systems will be expected to be sufficiently sensitive to detect initial travel-related cases of a novel pandemic strain arriving in NYC. Once the pandemic arrives, surveillance and laboratory resources will focus on the data most essential to public health decision-making (e.g., morbidity/mortality rates, age-specific attack rates, impact on the health care system, antiviral resistance, and vaccine efficacy).

Given the potential for extremely large numbers of cases, during the peak of the pandemic surveillance efforts will focus on monitoring disease trends (ideally using existing electronic data) as opposed to attempting to capture detailed information on every suspected or confirmed case. Staff resources will be used to collect more detailed clinical and epidemiologic information on a subset of cases to inform public health decision-making and provide information to the medical community.

OBJECTIVES

- Monitor City-wide trends in influenza-like illness (ILI) activity
- Detect outbreaks in institutional settings in order to provide public health consultation on effective control measures
- Detect the first travel-related cases of a novel influenza viral strain with pandemic potential in NYC
- Once the pandemic reaches NYC, inform the public health response by tracking its progression in the City
- Characterize morbidity and mortality in NYC and identify population groups at increased risk for severe disease, complications, or death, including age-specific rates of disease

- Assess transmissibility factors that either reduce or promote the spread of influenza in order to develop measures for community or health care settings to reduce secondary transmission
- Assess the sensitivity and specificity of laboratory diagnostics in detecting the pandemic strain
- Identify vaccination failures and antiviral resistance
- Conduct epidemiologic studies to determine clinical, epidemiologic, and/or treatment criteria associated with survival and improved outcomes
- Monitor for emergence of a second pandemic wave and/or shifts in the pandemic strain

ROLES AND RESPONSIBILITIES

Prior to a pandemic, the Bureau of Communicable Disease (BCD) has primary responsibility for influenza surveillance and outbreak response. Once a pandemic arrives in NYC, the Surveillance and Epidemiology (S&E) Section of DOHMH's Incident Command System (ICS) would be activated to provide the necessary surge response to all surveillance and epidemiologic activities.

CHALLENGES

Since the signs and symptoms of influenza are similar to those caused by other respiratory pathogens, diagnosis may be a challenge since laboratory testing must be conducted to definitively diagnose influenza. (See Appendix 2-A for case definition and testing guidelines for suspected cases of avian influenza A [H5N1]). Since laboratory testing is not conducted on most patients with ILI even during interpandemic periods, however, laboratory-based surveillance criteria for influenza will not provide complete information on all influenza cases, hospitalizations, and deaths. Similarly, since ILI is a nonspecific clinical presentation (defined as temperature > 100.4 º F with either cough, sore throat, or shortness of breath) that may be due to a number of different respiratory viruses e.g., respiratory syncytial virus (RSV and parainfluenza viruses), surveillance data based on clinical criteria alone will be inaccurate and likely overestimate the burden of illness due to influenza.

Rapid identification of the initial cases of a novel influenza virus and timely tracking of viral activity throughout the pandemic are critical to DOHMH pandemic response. However, laboratory capacity may be limited due to insufficient supplies (e.g., PCR [polymerase chain reaction] primers, probes, and reagents) or capacity for rapid testing. In addition, currently available diagnostic assays may have poor sensitivity for the novel or pandemic strain. Therefore, the surveillance strategies outlined below, especially during the pandemic alert and pandemic phases, may need to be modified if laboratory capacity in clinical care settings and at the Public Health Laboratory (PHL) and other reference labs is limited (including the New York State Department of Health [NYS DOH] and CDC).

I. Interpandemic and Pandemic Alert Periods (WHO phases 1-5)

During the yearly influenza season, DOHMH operates several surveillance systems to monitor influenza activity in NYC. CDC funding supports a full-time influenza surveillance coordinator.

Weekly summary reports are prepared for both internal and external use, and posted on DOHMH Web site. Current systems are detailed below.

A. Surveillance During the Interpandemic Periods

1. INFLUENZA SENTINEL PROVIDERS SURVEILLANCE NETWORK

NYC participates in passive influenza surveillance by means of the U.S. Influenza Sentinel Providers Surveillance Network, which is coordinated nationally by CDC (http://www.cdc.gov/flu/weekly/fluactivity.htm). This system monitors nationwide ILI morbidity and includes a virologic surveillance component to assess circulating strains.

Objectives of the Influenza Sentinel Providers Surveillance Network

- Estimate the impact of influenza on outpatient morbidity
- Provide epidemiologic information during the annual influenza season (e.g., disease rates by age category)
- Monitor antigenic changes in circulating viruses in order to provide information to CDC to guide decisions regarding the formulation of next year's vaccine

Description of Methods

As of May 2006, NYC has 70 clinical sites City-wide enrolled in the CDC Influenza Sentinel Providers Surveillance Network, more than the recommended ratio of 1 per 250,000 population (current ratio, approximately 1 per 114,000 population).

Current sentinel sites were selected based on willingness to participate (convenience sample), are not population-based, and are not representative of the geographic or medical specialty distribution in the city.

Sites include a combination of private offices, group practices, public clinics, specialty practices, and emergency departments. Data collected include:

- **Morbidity Reporting**: The sentinel sites report influenza morbidity data directly to the CDC (via Internet, telephone, or fax) on a weekly basis from the second week in October through the last week in May. The weekly transmission consists of the number of patients seen for ILI during a given week in each of 4 age categories (0 to 4 years; 5 to 24 years; 25 to 64 years; and older than 65 years) and the total number of patients seen for any reason at the sentinel site during that week. Six sentinel sites have volunteered to report on a year-round basis.
- **Laboratory Component**: All sentinel sites are asked to submit nasopharyngeal (NP) swab specimens from 2 to 3 patients with ILI to the PHL for rapid influenza antigen testing, viral isolation, and strain typing at each of the following stages during the influenza season:
  - At the beginning of the season (usually late October or November) when ILI first presents at a health care facility, midway through the season (usually late December and January), and towards the end of the season (usually March or early April).
  - Specimen collection kits are provided to the sentinel sites at the start of the influenza season. When specimens are obtained, DOHMH arranges transport to PHL to facilitate rapid testing

and forwarding of respiratory specimens to NYS DOH for viral isolation, and subsequently to CDC for further subtyping and/or strain characterization.

- In 2006, DOHMH provided 28 sites with their own rapid testing kits so that they could identify if influenza A was circulating within their practice and community.

2. LABORATORY SURVEILLANCE FOR INFLUENZA

There are approximately 48 NYC hospital and commercial labs that have been licensed to perform any type of influenza testing, including rapid antigen testing using a variety of commercially available kits, direct fluorescent antibody, and/or viral isolation. Only 9 NYC facilities have viral isolation capability. Four of these virology labs participate in the WHO Collaborating Laboratory Surveillance System and submit representative or unusual influenza viral isolates during the season for strain typing and/or antigenic analysis.

Labs that do not have viral culture capability may send a limited number of specimens to a commercial laboratory such as Quest for further confirmation. Most labs that provide rapid antigen testing for influenza also provide testing for respiratory syncytial virus (RSV). The 9 labs licensed to perform viral isolation are able to culture for the other respiratory pathogens that cause ILI (e.g., adenovirus, parainfluenza types 1-3).

Objectives of Laboratory Surveillance for Influenza

- Monitor the percentage of positivity and type of influenza viruses identified on a weekly basis in NYC labs
- Identify other viral pathogens circulating in the city

Description of Methods

DOHMH actively solicits data on influenza test results on a weekly basis from the licensed NYC laboratory facilities (average, 37 contacted per week [range, 28-43]). Data is collected and entered into a database that includes number of specimens submitted, number positive for Influenza A or B, number confirmed by culture, and the number and type of other respiratory pathogens identified.

Electronic Clinical Laboratory Reporting System (ECLRS): For labs that have established automated reporting through ECLRS, positive influenza tests were made reportable by the NYS DOH in November 2004 and by DOHMH in January 2006. Positive influenza A and B viral tests (rapid antigen, antibody, and culture) are received daily. No denominator data on the number of specimens tested are currently available. By July 2006, all labs will be required to report to DOHMH using ECLRS per a recent amendment to the NYC Health Code.

3. NOSOCOMIAL RESPIRATORY OUTBREAKS

Any outbreak of infectious illness (including suspected influenza) in a health care facility regulated under Article 28 of the NYS Public Health Law is reportable to the NYS DOH. In NYC, DOHMH usually takes the lead in providing consultation to long-term care facilities experiencing influenza outbreaks, while the NYS DOH takes the lead if an acute care facility is involved.

Objectives of Tracking Nosocomial Outbreaks in Long-term Care Facilities

- Provide consultation to facilities about antiviral prophylaxis and treatment, and reinforce infection control measures to minimize morbidity and mortality at affected institutions
- Obtain epidemiologic information regarding morbidity, mortality, and effectiveness of vaccine and antivirals in long-term care facilities during the annual influenza season
- Characterize circulating strains of influenza virus

Description of Methods

DOHMH investigates reports of one or more laboratory-confirmed cases of influenza or a cluster (2 or more residents on 1 unit) of ILI at long-term care facilities as well as at adult homes and residential drug treatment facilities in NYC. In addition, unreported outbreaks are identified via active laboratory surveillance and outreach to infection control staff to identify nursing home patients admitted to acute care facilities with influenza.

The following information is tracked in a designated database for nosocomial influenza outbreak investigations maintained by the BCD:

- Name of facility/contact information
- Causative agent
- Date of onset
- Description of symptoms
- Type of specimens and type/results of laboratory testing completed
- Antiviral prophylaxis and treatment measures and date(s) implemented
- Infection control measures and date(s) implemented
- Date of last onset
- Total number of ill, hospitalized, and fatal cases

Medical consultation is provided to the facilities regarding appropriate infection control measures, antiviral treatment, and prophylaxis options. During more severe influenza seasons, the BCD has implemented a rotation of Flu Teams consisting of a medical epidemiologist and a research scientist to provide surge capacity for providing public health consultations in the event of an increased number of outbreaks.

4. INFLUENZA-RELATED MORTALITY SURVEILLANCE

The Bureau of Vital Statistics prepares a weekly report to monitor causes of deaths in NYC. Deaths categorized as either influenza- or pneumonia-related are tabulated weekly and compared to recent years as part of the CDC's 122 Cities Mortality Reporting System.

Objectives of Influenza-Related Mortality Surveillance

Assess trends in deaths that may be influenza-related.

Description of Methods

Each week, the Bureau of Vital Statistics prepares a report that includes the total number of death certificates filed each week and the number of deaths for which pneumonia or influenza (P&I) was mentioned anywhere on the certificate. The majority of P&I deaths are due to pneumonia, not influenza, as noted on the death certificate.

5. PEDIATRIC INFLUENZA MORTALITY

Subsequent to an unexpectedly high number of pediatric deaths due to influenza during the 2003-2004 season, the NYS DOH made pediatric influenza related deaths reportable in November 2004. NYC DOHMH also added pediatric influenza-related deaths to the notifiable disease list in Section 11.03 of the NYC Health Code, effective January 2006. Suspected or confirmed cases are reportable to DOHMH, who in turn shares data with the NYS DOH.

Objectives of Pediatric Influenza Mortality Surveillance

- Increase awareness among pediatric providers and Office of the Chief Medical Examiner (OCME) to report deaths among children younger than 18 years that may be due to influenza
- Facilitate testing of suspected deaths by virologic and immunohistochemical testing of autopsy tissues
- Identify clinical and epidemiologic characteristics of fatal cases of influenza among children
- Identify missed opportunities for vaccination and guide national influenza vaccine policy

Description of Methods

At the start of each annual influenza season, DOHMH reminds pediatric providers to report any cases of children younger than 18 years of age whose deaths are suspected to be due to influenza so that laboratory testing can be arranged. For surveillance purposes, a pediatric influenza-associated death is defined as any death occurring in a patient age 18 years or younger under the following conditions:

- Sudden and unexplained death, but due to an apparently natural cause

OR

- Following a febrile or respiratory illness of unknown cause

Enhanced outreach to pediatric providers and the OCME is achieved via targeted Health Alerts and the Immunization Registry fax system. When a suspected case is reported, DOHMH works with the providers and/or the OCME/pathologist to obtain appropriate tissues for virologic testing at the PHL or NYS DOH, and immunohistochemical testing at CDC. DOHMH medical epidemiology staff review the clinical and epidemiologic history by interviewing the pathologist, patient's provider, and family and, if needed, conduct a medical chart review. Data are shared with NYS DOH and CDC as part of the national notifiable disease surveillance system for pediatric influenza deaths.

6. INFLUENZA-RELATED HOSPITALIZATIONS (HERDS)

In 2004, the NYS DOH began requesting data on a weekly basis from all hospitals on new admissions due to laboratory-confirmed influenza via the Health Emergency Response Data System (HERDS) located on the NYS Health Provider Network.

Objectives of HERDS

To monitor weekly trends in influenza-related hospitalizations

Description of Methods

- NYS DOH has added a variable to the current influenza survey on HERDS to collect the number of laboratory-confirmed hospitalized influenza cases, stratified by age group, on a weekly basis.
- Only numerator data are obtained; no personal identifiers or patient-specific information are collected, making it difficult to follow up if case investigations are needed.
- Hospitals are requested to provide this information weekly on HERDS. DOHMH downloads this data, as well as data on weekly ED visits and bed utilization to help monitor the impact of the influenza season.
- Information submitted to HERDS requires active surveillance and manual data entry by hospital staff; this is not yet an automated, electronic system.

7. SYNDROMIC SURVEILLANCE SYSTEMS

DOHMH has established several different syndromic surveillance systems to monitor illness in NYC. These systems use existing electronic data that can be coded into disease syndromes and are available for transmission to DOHMH on a daily basis. The data are used to monitor for City-wide trends and geographic clustering of clinical syndromes, which are non-specific (e.g., diarrhea and ILI) but may represent an early warning of a disease outbreak.

Objectives of Syndromic Surveillance

- Timely characterization of community-wide ILI activity and tracking of disease trends
- Analysis of age-specific trends in order to potentially identify novel strain signatures

Description of Systems and Methods

Emergency Department (ED) Chief Complaint System: Data for the previous 24 hours are received from 48 (75%) of 64 NYC EDs covering 90% of ED visits City-wide. Visits are grouped into syndromes, including respiratory and fever-flu-like illness. Analyses performed 365 days/year include:

- City-wide temporal trend analysis
- Spatial cluster analysis, geographically-defined by patient's home zip code or ED location
- Age-specific analyses

EMS-911 ambulance dispatch system: Data on calls to 911 for the previous 12 hours are received twice daily and cover 100% of acute ambulance transports that are coordinated through the 911 system in NYC. Calls categorized by EMS dispatch operators as "respiratory," "difficulty breathing," "sick," or "sick-pediatric" are grouped into an ILI category. Analyses performed 365 days/year include:

- City-wide temporal trend analysis
- Spatial cluster analysis to identify geographically defined outbreaks by the zip code where the transport originated

Pharmacy drug sales: Adjunct system that monitors City-wide trends in sales of any over-the-counter medication with "flu" or "tussin" in the name. Temporal trend analyses are similar to ED and EMS systems. This system also receives data on prescription antiviral medication sales (e.g., oseltamivir).

Signal Investigations: Protocols for investigation of statistically significant signals are detailed in the BCD's Emergency Department Syndromic Surveillance Signal Investigation Manual. Steps for investigation may include one or more of the following:

- Reviewing line lists
- Compiling descriptive statistics
- Acquiring interim 12-hour logs to see if the increase is sustained
- Checking complementary systems
- Contacting ED physicians by phone to inquire if any unusual patterns were observed
- Requesting that hospital staff review charts for additional information
- Sending DOHMH staff to review charts on site
- Requesting that physician's lower their threshold for laboratory testing for influenza
- Obtaining patient contact information to telephone discharged patients directly

To facilitate influenza testing at EDs participating in the Chief Complaint Surveillance System, free rapid antigen test kits may be provided for use when statistical signals are detected. If rapid antigen tests are positive for influenza, then NP specimens would be collected for viral culture testing at the PHL, as well as influenza typing and subtyping.

B. Surveillance During the Pandemic Alert Period

1. ENHANCED PASSIVE SURVEILLANCE FOR NOVEL STRAINS OF INFLUENZA AMONG TRAVELERS TO AREAS CURRENTLY AFFECTED BY AVIAN AND/OR HUMAN OUTBREAKS

Once a novel influenza virus is detected anywhere in the world (e.g., H5N1outbreaks in Asia in 1997 and 2004-present), enhanced surveillance to ensure rapid recognition of the first travel-related cases will be implemented. The NYC Board of Health recently approved the addition of "influenza caused by novel influenza viral strain with pandemic potential" to the notifiable disease list in the NYC Health Code (Section 11.03), effective January 2006.

07.06

Objectives of Enhanced Passive Surveillance

- To identify the introduction into NYC of a novel influenza viral strain with pandemic potential
- To educate health care providers about the novel virus overseas and the need to screen patients presenting with fever and respiratory symptoms with travel history to the affected area(s) or other risk factors, and to report all suspected cases meeting surveillance criteria to DOHMH

Enhanced Passive Surveillance Outreach Methods (Novel virus health alerts and reporting guidelines for hospitals, community health centers, and health care providers)

The following information will be included in any outreach to health care providers regarding the need to remain alert for travel-related cases, and how to detect and manage any patients suspected to be infected with a novel influenza virus:

- Clinical signs/symptoms of cases
- Epidemiology of novel virus (strain type, infectivity rate, demographics of affected individuals and up-to-date information on currently affected countries)
- Guidance regarding triage of patients presenting with fever and respiratory symptoms and importance of obtaining travel histories
- NYC DOHMH criteria for reporting suspected cases (See Appendix 2-B for current reporting guidelines for H5N1 influenza and Virus Detection Laboratory Submission Form)
- Guidelines for the initial management of suspected/probable cases being treated at hospitals, community health centers (CHCs), or private providers' offices (including diagnosis [specimen collection and laboratory testing], infection control measures [standard and droplet precautions], antiviral treatment, and monitoring contacts). (See Appendix 2-B for current DOHMH guidelines for NYC providers regarding the management of suspected H5N1 cases)
- Laboratory testing for the novel virus will be coordinated by PHL, and either tested locally if reagents and capacity exist, or forwarded to NYS DOH Wadsworth Laboratory or CDC
- Autopsies will be requested for fatal cases of influenza, unexplained pneumonia or severe respiratory diseases occurring among travelers returning from affected areas overseas; assistance will be requested from the OCME if needed and tissues will be sent for laboratory testing, including viral and immuno-histochemical staining of autopsy tissues
- Guidelines for initial tracking and management of close contacts (household, health care workers) of highly suspected and laboratory-confirmed cases (e.g., contact with known H5N1 cases overseas or direct contact with infected poultry) including implementing fever watch to detect secondary transmission
- Travel advisory(ies) to affected area(s), if implemented by CDC or WHO

Other Outreach methods

Outreach methods will include medical alerts sent via the NYC DOHMH Health Alert Network (HAN), as well as maintaining updated guidelines (Appendix 2B) on DOHMH Web site.

Oral presentations will also be conducted by DOHMH medical epidemiologists at medical grand rounds, medical society meetings, and medical conferences on information contained in the Health Alerts, with a focus on recognition and initial management of suspected cases. Presentations will be tailored to the specific audience.

DOHMH has developed and distributed guidelines to hospitals and primary care clinics to assist facilities with improving screening, triage, and isolation of patients with suspected illness due to more highly communicable diseases, such as novel strains of influenza with pandemic potential. These guidelines include a template screening and triage protocol (Appendix 2-D) to help facilities identify patients presenting with fever and rash, or fever and respiratory symptoms with a travel history.

All NYC hospitals have been asked to use this template to develop an institution-specific protocol for their emergency departments, conduct staff trainings, and complete at least 1 unannounced drill using a simulated patient as part of DOHMH's core contract with all hospitals through the Bioterrorism Hospital Preparedness Program.

All guidelines and surveillance criteria will be considered interim, as DOHMH recommendations will need to be adjusted according to the epidemiology of illness caused by the novel viral strain overseas. Updated health alerts and clinical guidelines will be distributed to health care partners as deemed necessary by DOHMH.

If the novel virus persists but does not demonstrate pandemic potential, periodic reminders may be needed to maintain awareness among health care providers to screen patients with febrile and respiratory illness for international travel history. If the situation overseas progresses (e.g., transition from Phase 3 to 5), outreach efforts to ensure that NYC providers and health care facilities are actively screening all patients with fever and respiratory illness for risk factors associated with the novel influenza strain will be greatly enhanced by DOHMH.

DOHMH Management of Suspected Case Reports

- BCD and DOHMH On-Call Physicians have been provided with a triage protocol and form to screen provider reports of suspected novel influenza cases (Appendix 2-D).
- Cases meeting surveillance criteria will be prioritized for rapid influenza PCR testing at the NYS DOH.
- Protocols are in place to ensure urgent transportation of clinical specimens to PHL or the NYS DOH for testing for highly suspected cases.
- For cases that are more highly suspected (e.g., contact with known H5N1 case or infected poultry overseas), close contacts (family members and health care workers) will be closely monitored for fever and respiratory symptoms.

Decisions about antiviral prophylaxis and/or home quarantine for close contacts will be determined based on the risk exposures of the suspected case and the current epidemiology of the novel virus overseas, with the primary consideration being whether there is any evidence of human-to-human transmission (e.g., WHO Pandemic Phase 5).

- Any suspected or confirmed case due to a novel influenza strain will be immediately reported to NYS DOH and CDC.

2. COMMUNITY OUTREACH TO CITY NEIGHBORHOODS WITH LARGE POPULATIONS OF IMMIGRANTS FROM AFFECTED AREA(S) OVERSEAS

In the event of the emergence of a novel virus overseas with increased evidence of human to human transmission (WHO Pandemic Phase 5), targeted community outreach may be conducted in coordination with DOHMH Office of Communications in neighborhoods in NYC with large numbers of immigrants from the affected area.

(NOTE: Similar efforts were made by DOHMH in Asian communities in NYC during the 2003 outbreak of Severe Acute Respiratory Syndrome [SARS]. Targeted community outreach will help raise awareness about the need to seek medical care if persons develop fever and respiratory symptoms soon after returning from an affected area, especially among persons who had direct contact with known cases.)

Objectives

- Educate NYC communities with immigrants from affected countries about the novel virus and advise travelers to seek medical attention if ILI symptoms develop within 10 days after returning to NYC.
- Enhance the affected communities' awareness and understanding of the need to report to the NYC DOHMH any suspected/probable cases in family members or friends who may not be willing to seek medical care.

Description of Methods

Community Relations and Press Office representatives will work with the Mayor's Office of Immigrant Affairs, the Mayor's Community Assistance Unit, and Volunatry Organizations Active in Disasters to reaching out to affected communities by:

- Issuing press releases targeting the media serving the affected communities
- Making presentations at community board meetings or other local gatherings to alert the community about the outbreak overseas and the risk to returning travelers, and to address their potential concerns regarding stigmatization

The success of such efforts will depend on the strength of DOHMH relationships with these communities prior to the pandemic. Community-based organizations should be advised ahead of time about the importance of early detection and rapid response to suspected cases of a novel influenza strain such as H5N1.

3. SURVEILLANCE FOR ILI AMONG INTERNATIONAL PASSENGERS ARRIVING FROM AFFECTED AREAS OVERSEAS

Influenza due to a potentially pandemic strain was added to the CDC's list of quarantinable diseases in April 2005. DOHMH will coordinate with the CDC's Quarantine Station at JFK Airport in the event that an arriving passenger from an area affected by the pandemic alert presents with ILI or fever/respiratory illness.

Passengers with ILI may be detected prior to arrival through notification by the pilot on the arriving carrier, or recognized when the passenger passes through Customs or Immigration. The JFK Quarantine Staff is to be notified by the airline pilot or other airport officials in the event that a suspected case of avian influenza is recognized.

The Quarantine Medical Officer will evaluate the patient and notify DOHMH if influenza due to a novel strain is suspected so that the patient can be transported safely to a designated hospital where the patient may be evaluated and treated pending laboratory test results.

Suspected cases will be placed under standard and droplet precautions, and appropriate clinical specimens (e.g., OP and NP swabs or aspirates) will be obtained for influenza testing at PHL. DOHMH will work with the CDC Quarantine station staff to manage other passengers and crew members.

Avian Surveillance

Although the primary threat to human health from the introduction of a novel influenza strain with pandemic potential into NYC is infected human travelers from affected areas overseas after efficient and sustained person-to-person spread has begun to occur, it is possible that a highly pathogenic avian influenza virus could arrive first via infected birds (migratory or imported). However, if an HPAI strain had not yet developed the ability to spread easily among humans, the risk of human illness after the detection of infected birds in NYC would be small.

DOHMH has recognized the need to work closely and communicate regularly with other state and federal agencies to facilitate the recognition of infected birds (poultry and wildlife) in the NYC area. Since DOHMH Public Health Veterinarian works in the BCD's Zoonotic and Vector-borne Disease Unit, animal disease surveillance efforts are closely coordinated with human surveillance.

Information on avian surveillance efforts and findings is routinely shared with the staff overseeing human influenza surveillance. Details on current plans for avian surveillance being conducted and/or planned by DOHMH, NYS DOH, NYS Department of Agriculture and Markets, NYS Department of Environmental Conservation, and the U.S. Department of the Interior are outlined in Appendix 2-E.

II. Pandemic Period (WHO phase 6)

Once the pandemic reaches NYC, the Surveillance and Epidemiology section of DOHMH's Incident Command System (ICS) will be activated to conduct all surveillance and epidemiologic activities during the first and subsequent phases of the pandemic.

The surveillance priority will be to monitor trends in influenza-related hospitalizations and deaths, and to characterize the epidemiologic or clinical features of the outbreak (e.g., predictors of survival, antiviral resistance, unexpected complications, or age-related mortality). During the pandemic response, DOHMH will need to assimilate large amounts of data, and the surveillance systems used will need to be flexible and adaptable to assess and monitor the most pertinent epidemiologic features of the pandemic virus. Database management will be key, with timely case tracking facilitated by either field-based data entry or electronic reporting via existing hospital data systems or Internet-based provider reporting.

A. The Role of Existing Influenza Surveillance Systems

Depending on competing agency priorities and staff resources, surveillance systems in place prior to the pandemic may be discontinued, monitored without change, or modified to address specific aspects of the pandemic.

1. U.S. INFLUENZA SENTINEL PROVIDER SURVEILLANCE NETWORK (ISPSN)

Sentinel providers in NYC may be asked to increase the number of specimens obtained for viral testing to monitor any changes in the circulating viral strains. Weekly reporting to CDC will include an estimate of the age-specific trends in milder pandemic-related illness in the community.

It may be difficult if not impossible, however, for sentinel providers to report timely and accurate information on a daily or weekly basis if their clinical practices are overwhelmed. ISPSN sites that rely on reporting of existing data from electronic medical or health records may be more realistic sites for maintaining reporting during the pandemic period.

Description of Enhanced Methods

- If reference laboratory and transportation resources allow, DOHMH will continue to request submissions of NP specimens from all or a select number of sentinel sites in NYC to monitor changes in the pandemic virus. (NOTE: The ability to request specimens, including the number solicited, will depend on PHL, NYS DOH and/or CDC viral reference laboratory capacity.)
- Selection criteria for patients to be tested will be determined in consultation with CDC and NYS DOH, and will likely include meeting the case definition for ILI or pneumonia and epidemiologic indicators to be defined based on the epidemiology of the pandemic. If staff resources allow, DOHMH will also actively call non-reporting sentinel sites weekly to encourage them to report their weekly tally of influenza-like visits by age group.

2. LABORATORY SURVEILLANCE FOR INFLUENZA

- If laboratory resources are available, testing supplies (including PCR or other rapid assays) will be provided to high-volume hospitals or commercial labs to enhance capacity for identification of the pandemic strain. Otherwise, the ability to conduct active laboratory surveillance to assess the number of laboratory positives and the percentage of positivity rates will depend on DOHMH and laboratory staff resources.

- As all labs are required to report via ECLRS by June 2006, laboratory surveillance will be mostly based on automated ECLRS data.

3. NOSOCOMIAL RESPIRATORY OUTBREAKS

- Depending on staff resources, DOHMH, in close coordination with NYS DOH, will maintain contact with long-term care facilities reporting nosocomial influenza outbreaks on a weekly basis to assess the number of hospitalizations and deaths.
- Guidelines on management of the pandemic in health care facilities will be distributed by the Health Access Network (HAN) and posted on DOHMH Web site.
- Medical consultation will be provided on request about control measures and treatment options. Otherwise, no changes are planned from activities described under the Interpandemic Period.

4. INFLUENZA-RELATED MORTALITY SURVEILLANCE

- No changes are planned from activities described under the Interpandemic Period, except that influenza-related mortality data may be compiled daily instead of weekly, especially once the electronic death registry system is in place.
- The vital registry may be matched against the pandemic influenza surveillance database, to identify known cases that have subsequently died.
- Additional methods for influenza death surveillance detailed below.

5. PEDIATRIC INFLUENZA MORTALITY

No changes are planned from activities described under the Interpandemic Period, except that if children are disproportionately affected by influenza mortality, it may be difficult to provide laboratory diagnostic testing to confirm all suspected cases (especially given likely limitations in immunohistochemical testing at CDC).

6. INFLUENZA-RELATED HOSPITALIZATIONS (HERDS)

For more information, see page 15.

7. SYNDROMIC SURVEILLANCE

No changes are planned from activities described under the Interpandemic Period/Pandemic Alert Period, except that heightened attention will be paid to:

- Timely analysis of age-specific temporal trends to characterize the epidemiology of the pandemic
- Monitoring for and characterization of subsequent pandemic waves

B. Surveillance and Epidemiology (S&E) Section Responses to a Pandemic

Once the arrival of a pandemic strain is recognized in NYC, DOHMH's ICS will be activated and the S&E section will be mobilized to conduct City-wide surveillance and epidemiologic investigations. Specific responsibilities of the 5 units within the S&E section are outlined in Appendix 2-F.

1. SURGE CAPACITY

- There are approximately 375 DOHMH staff assigned to the S&E section, including over 180 public health advisors and epidemiologists assigned to the Field Surveillance Unit.
- Additional surge capacity resources include public health graduate students who participate in the BCD's Outbreak Response Team, as well as dental professionals at a local university who have been trained to provide surge capacity for the S&E surveillance triage hotline.
- Prior to any mobilization of staff for health care facility-based surveillance activities, a "just-in-time" infection control training (an abbreviated version of DOHMH's standard infection control course) will be provided to ensure that all S&E staff asked to interview potential cases receive refresher training in appropriate infection control precautions.

2. LIMITATIONS

Given the potential for an overwhelming number of cases, including hospitalizations and deaths, the ability of the S&E section to fully investigate each hospitalization and death may be limited as the pandemic progresses. Therefore, once the pandemic is confirmed in the City, traditional patient-based case surveillance and follow-up investigations may no longer be possible, and the section may need to identify existing electronic data sources (e.g., electronic ED data on patient disposition and diagnosis) to monitor trends in daily hospital admissions (aggregate reporting) and may only collect minimal information on each case (e.g., age, residence).

At that time, S&E surveillance staff resources will need to focus on obtaining more detailed clinical and epidemiologic information on a subset of cases for special surveillance and epidemiologic studies to inform public health and medical decision-making.

C. Objectives of Surveillance Once the Pandemic Reaches NYC

- Inform the public health response by tracking the progression of the influenza pandemic in NYC
- Characterize morbidity and mortality trends in NYC and identify populations at increased risk for more severe disease, hospitalizations, complications, or death, including age-specific attack rates
- Assess transmissibility factors that reduce or promote spread to others in order to guide decisions on measures to reduce secondary transmission in community or health care settings
- Assess the sensitivity and specificity of laboratory diagnostics in detecting the pandemic strain
- Identify vaccination failures and antiviral resistance
- Conduct epidemiologic studies to determine clinical, epidemiologic and/or treatment criteria associated with improved outcomes and survival
- Monitor for emergence of the second pandemic wave and/or shifts in the pandemic strain

07.06

1. SURVEILLANCE METHODS

Surveillance options for monitoring hospital admissions due to pandemic influenza include transition to electronic reporting of hospital admission data from the ED syndromic surveillance system and manual data entry by hospital staff into HERDS to follow overall trends.

City-wide surveillance methods will focus on establishing systems that facilitate monitoring disease trends and obtaining timely tallies (aggregate reporting by age groups) of influenza-related illness, hospitalizations, and deaths (including deaths due to primary influenza and secondary complications). DOHMH will work with NYS DOH and hospital infection control staff to develop the simplest possible surveillance methods so as not to overly burden hospital staff.

The capacity to do more detailed case and/or contact investigations will depend on staff resources, taking into account the potential impact on other agency priorities given the likelihood of an extended pandemic response. At the start of the pandemic in NYC, the S&E section will attempt to do case-based surveillance and obtain more detailed clinical and epidemiologic data on the intital hospitalized cases.

Limited contact tracing and monitoring would only be considered for the initial travel-related cases at the start of the pandemic in another country or state. Given the epidemiologic characteristics of influenza viruses (e.g., contagiousness before illness onset and potential for asymptomatic cases to shed virus), however, such tracking and use of DOHMH staff resources will not be an effective way to control the outbreak once there is evidence of sustained community transmission in the city. Therefore, contact investigations will not be conducted once the pandemic reaches NYC.

2. LIMITATIONS

As the pandemic progresses, the number of cases reported daily may quickly overwhelm surveillance resources. Estimates from CDC's FluSurge 2.0 program suggest that there may be as many as 800 new admissions per day at the peak of the pandemic in NYC.

After confirming the presence of the pandemic during the first week or so of the outbreak, it may be necessary to conduct more detailed case-based surveillance activities only at select sentinel hospitals to monitor changing trends in the clinical characteristics and epidemiology of the outbreak.

Surveillance options for monitoring hospital admissions due to pandemic influenza include transition to electronic reporting of hospital admission data from the ED syndromic surveillance system to follow overall trends as well as via the HERDS system

(NOTE: HERDS requires manual tallying and data entry by hospital staff on the total number of new influenza-confirmed admissions by age group. Obviously, a hospital's ability to do this accurately or completely may be compromised during the pandemic response due to competing priorities. Since the capacity for confirmatory laboratory testing for the pandemic strain will likely be limited, it is assumed that hospitals will only track cases that meet clinical criteria. The S&E Section may opt to send a surveillance staff person to hospitals unable to report electronically to help tally information on pandemic-related admissions.)

The capacity for laboratory confirmation may also be limited depending on the sensitivity and availability of rapid diagnostics for the pandemic strain, especially if BSL-3 conditions are required for viral culture.

In the setting of minimal laboratory capacity at the NYS DOH or DOHMH laboratories, testing will be restricted to priority cases (e.g., suspected antiviral or vaccine failures) and cases included in special epidemiologic or surveillance systems. The specific prioritization scheme will be decided at the time of the pandemic, based on discussions between the PHL and S&E section, and the availability of laboratory reagents and/or additional surge capacity at the NYS DOH, CDC, or clinical virology labs in the city.

Surveillance Systems for Influenza/ILI Illness (may not be limited to):

- **Provider-based reporting**
  This type of reporting will not be a primary method for surveillance during the pandemic period. Provider-based reporting will likely be limited to cases with specific clinical and/or epidemiologic criteria (e.g., secondary complications [pneumonia due to *Streptococcus pneumoniae* or community acquired methicillin-resistant *Staphylococcus aureus*], failure to respond to antivirals, vaccine failure, pediatric deaths). Clinical and/or laboratory criteria will be disseminated to health care providers in the city, with guidance on when and how to report potential cases.
  - **Objective**
    To detect worrisome cases or unusual aspects of the pandemic (failure to respond to antivirals, vaccine failure, unexpected complications, pediatric deaths)
  - **Surveillance criteria**
    - ***Confirmed case***: Laboratory confirmation of influenza A in patients with ILI or febrile respiratory illness who meet the specified clinical and/or epidemiologic criteria (laboratory criteria will include either positive tests for influenza A, or if laboratory resources allow, specific confirmation of the pandemic strain [e.g., H5N1])
    - ***Probable case***: ILI or febrile respiratory illness without other known etiology that meet the specified clinical and/or epidemiologic criteria (including cases with known epidemiologic link to a confirmed case)
  - **Surveillance methods**
    Enhance passive surveillance with providers using Health Alerts and other outreach methods to report unusual cases meeting specific criteria via:
  - Web-based reporting using the e-URF (Universal Reporting Form) module on the NYC MED portal, with a special screen to report pandemic influenza cases
  - DOHMH's Provider Access Line (PAL), a toll-free number for all disease reporting and/or public health consultation,

- **Data collected**
  - Web-based and PAL intake reporting forms that collect minimal information, including identifying information, age, hospitalization, symptom onset, laboratory confirmation, history of vaccination against the pandemic strain, and specific complications

- Cases meeting surveillance criteria may be further investigated by S&E
- Field Surveillance by chart reviews and/or patient interviews using special case forms

Hospital admissions due to influenza

- **Objective**
  To monitor hospitalization trends to assess severe morbidity due to the pandemic
- **Surveillance criteria**
  - ***Confirmed case***: Laboratory confirmation of either influenza A or the subtype of the pandemic strain in a hospitalized patient with ILI or febrile respiratory illness (laboratory criteria will include either positive tests for influenza A or specific confirmation of the pandemic strain [e.g., H5N1], if laboratory resources allow)
  - ***Probable case***: ILI or febrile respiratory illness in a hospitalized patient without other known etiology (includes cases with known epidemiological link to a confirmed case)
- **Surveillance methods**
  - ***Active surveillance***: Depending on staff resources (especially during the first week of the first wave of the pandemic), the Field Surveillance Unit will establish teams at select sentinel NYC hospitals (2-3 persons depending on the size of hospital; some teams may be responsible for 2-3 hospitals in a designated region of the city) to actively ascertain data on influenza-related admissions by reviewing (every 1 to 3 days) hospital admission and ICU logs, laboratory surveillance, and outreach to key clinical staff (e.g., infection control specialists). After the first week or so of the pandemic, hospital-based active surveillance teams will focus on collecting more detailed information on a subset of patients as part of planned epidemiologic studies (see below).
  - ***Passive Surveillance***: After initial confirmation of the pandemic in NYC, the S&E section will need to transition to surveillance methods that do not require significant staff resources. Potential options currently being explored and evaluated include obtaining electronic data on ED admissions. The comparability of electronic data sources to active surveillance findings will be assessed during the initial week or so of the pandemic.
  - ***HERDS***. Data will also be collected on a daily basis using NYS DOH's HERDS system, as NYS DOH plans to continue to request that hospitals provide aggregate information on the number of influenza hospitalizations by age group. The limitation of using HERDS is that no patient-level information is obtained, and, in the absence of patient identifiers, DOHMH will be unable to de-duplicate the data or validate the results, making it difficult to track the epidemiology of the pandemic in any detail beyond overall case counts.

    In addition, HERDS currently requires manual data collection and entry on the hospital end, which may be affected by staffing issues at the hospitals, especially at the peak of the pandemic. Lastly, the methods for collecting this data may vary from hospital to hospital,

07.06

and thus not be standardized. With guidance from NYS DOH and DOHMH, hospitals will need to develop methods of collecting this information that ensure reporting of unduplicated numbers of influenza-associated hospitalizations and deaths (e.g., by maintaining line lists on site).

- **Data collected**
  Hospital-Based Active Surveillance Teams will use a short case investigation form at the start of the pandemic to obtain basic information on all cases at sentinel hospitals. A more detailed form will be used for those cases included in special surveillance or epidemiologic investigations.
  - The short form will be used to collect the following information to monitor general pandemic trends, including but perhaps not limited to:
    - Demographics
    - Age, gender, race/ethnicity, home residence zip code
    - Clinical data including date of onset, type of symptoms, admission date
    - Hospital and provider contact information
    - Influenza laboratory tests conducted and results
    - Epidemiologic data including contact with known cases, employment as health care worker
    - Outcome, such as fatal outcome vs. survival
  - A longer form will used to collect more detailed information on a sample of cases to characterize the local epidemiologic and clinical characteristics of the outbreak (especially at the start of the pandemic) as part of the planned surveillance and epidemiologic studies. Data collected will include but may not be limited to:
    - Demographics
    - Clinical data such as onset of symptoms, type of symptoms, admission date, severity of illness
    - Complications (e.g., pneumonia, encephalitis)
    - Underlying illnesses
    - Epidemiologic risk factors such as age, occupation (e.g., health care worker), illness among household members
    - Influenza laboratory tests conducted and results
    - Vaccine status (influenza and pneumococcal vaccine), adverse events

- Antiviral history, adverse events
- Other treatments received (antibiotics, ventilator support, immune modulators)
- Outcomes of interest

- **Deaths due to influenza**
  - **Objective**
    To monitor pandemic-related mortality rates
  - **Surveillance criteria**
    - ***Confirmed case***: Fatal case in patient with laboratory confirmation of influenza A and/or pandemic strain (e.g., H5N1)
    - ***Probable case***: Fatal case in patient with preceding ILI or febrile respiratory illness without other known etiology (includes cases with known epidemiologic link to a confirmed case)
  - **Surveillance methods**
    - ***Vital Statistics***: Continue to monitor trends in P&I mortality based on current nosologic coding criteria. DOHMH will notify all health care providers via Health Alerts and other means to specifically record influenza as the primary or secondary cause of death on the death certificates for all suspected or confirmed pandemic-related deaths. Vital statistics data will be matched against the pandemic influenza surveillance database on a regular basis to ensure complete ascertainment of all pandemic influenza-related fatal cases.

      In the event that the normal system for tracking death certificates becomes back-logged due to delays in the funeral home/crematorium system, DOHMH Vital Statistics staff will work with the OCME and hospitals to establish alternative systems for filing death certificates to avoid delays. (NOTE: The NYC DOHMH has developed and is currently piloting an electronic death certificate registry system that will eventually allow real time reporting of all deaths, including hospital-based deaths. In the event of a pandemic, it may be possible to rapidly activate this pilot system for use at all hospitals, as well as modify the data entry form to capture information specific to pandemic related deaths.)
    - **Hospital-based surveillance**: Depending on staff resources, hospital-based S&E surveillance teams at sentinel hospitals will collect outcome data on all or a subset of hospitalized cases by comparing surveillance data with logs in the hospital morgue.
    - **HERDS**: NYS DOH may add pandemic influenza-related mortality to the HERDS system, and request that hospitals report daily aggregate data on the number of suspected and confirmed influenza-related deaths by age group.
    - **Pediatric**: Enhanced surveillance for laboratory-confirmed pediatric pandemic influenza-related cases will monitor for the following:

- A suspected pediatric influenza-associated death is defined as any death occurring in a patient aged 18 years or younger with EITHER of the following syndromes.

  Sudden and unexplained death, but due to an apparently natural cause

  OR

  Following a febrile or respiratory illness of unknown cause

A confirmed pediatric pandemic influenza-associated death is defined as any death occurring in a patient aged 18 years or younger with a clinically compatible illness that was confirmed to be influenza by an appropriate laboratory or rapid diagnostic test for influenza A or the specific novel strain (e.g., H5N1).

Case ascertainment methods will include:

- OCME reporting of unexplained fever or respiratory illness in children
- Active outreach to pediatric providers
- If staff, transportation, and laboratory resources allow, staff will be assigned to ensure that appropriate specimens are obtained on suspected pediatric deaths to facilitate laboratory diagnosis

Data collected: Forms will include similar information as above for hospitalized cases.

- **Hospital resource data** will be collected daily (more or less frequently depending on the pace of the pandemic) using HERDS to assess the impact of the outbreak on hospital surge capacity and to prioritize allocation of resources if scarce (e.g., ventilators). The activation and operation of HERDS will be done in close coordination with NYS DOH.
- Data collected will include but will not be limited to:
  - Total number of ED visits and number due to suspected influenza
  - Total number of new admissions and number due to suspected and confirmed influenza
  - Bed occupancy and availability by type of unit (including adult and pediatric intensive care)
  - If possible, hospitalized patients with suspected or confirmed influenza
  - Airborne infection isolation room occupancy and availability
  - Staff absenteeism
  - Ventilator availability
  - Antiviral supplies

Details on how DOHMH will use information collected via the HERDS system to allocate staff, equipment, supplies, and other resources to NYC hospitals is detailed in Section 5, Health Care Planning and Emergency Response.

- **Absenteeism Data**: The following electronic data sources may be monitored to assess the impact of the pandemic on the city:
  - Department of Education attendance records
  - MTA absenteeism
  - First responder agencies' absenteeism data

3. DATABASE MANAGEMENT

If available, the CDC's Outbreak Management System (OMS) database (currently under development) will be used. Otherwise, the S&E section will work with staff in the Bureau of Informatics and Information Technology (BIIT) to develop a SQL server database.

Regardless of which database system is used, it will be essential to link surveillance data with laboratory test results conducted at PHL, especially for cases included in the S&E section's surveillance and epidemiologic studies. In addition, if available, the Field Surveillance Unit will be provided with handheld or laptop computers to facilitate field-based data entry.

4. SURVEILLANCE REPORTS

The Epidemiology and Data Unit of the Surveillance and Epidemiology Section will prepare a daily summary report that may include:

- Number of new influenza-related hospitalizations/cumulative to date with age-specific rates
- Number of new influenza deaths/cumulative to date with age-specific rates
- Estimated number and percentage of hospitalized or fatal cases among health care workers
- Percentage of ILI by age group among sentinel ISPSN providers
- Percentage of influenza positivity and total number of positive influenza tests
- Number of laboratory-confirmed nursing home outbreaks
- Graphical trends in ED Chief Complaint and other non-traditional surveillance systems
- HERDS data on hospital bed capacity and resource/staffing needs

Surveillance reports will be provided to DOHMH Emergency Operations Center (EOC), as well as the NYC EOC at the Office of Emergency Management (OEM). Prior to finalizing the daily report, the S&E section will share preliminary drafts with the NYS DOH to resolve any inconsistencies.

5. REGIONAL SURVEILLANCE COORDINATION

The NYC DOHMH will work closely with regional partners in the metropolitan area to communicate and share surveillance findings on a regular basis.

The NYC DOHMH is one of the founding members of the Metropolitan Bioterrorism Epidemiology and Surveillance Workgroup that meets quarterly to plan the regional response to public health emergencies, including bioterrorism and/or pandemic influenza. Participating members include representatives from the New York, New Jersey, and Connecticut state health departments, as well as all the local health agencies in the Tri-State area.

Current planning efforts are focused on developing a shared database, hosted by the NYS DOH, to facilitate real time sharing of summary surveillance data on a secure Web site. This mechanism would be used, along with frequent conference calls, to facilitate regional coordination of surveillance efforts during a pandemic.

6. COMMUNICATION WITH PROVIDERS

The S&E section will prioritize providing ongoing updates to the medical community during the pandemic via by a variety of means. Updates will focus on:

- Current surveillance findings in NYC and nationally
- Epidemiologic and clinical characteristics of the pandemic
- Guidance on reporting suspected cases and obtaining reference laboratory services
- Clinical management
- Current priority groups for antivirals and vaccines and information on how these are being distributed
- Current DOHMH recommendations on community measures
- Risk communication messages that DOHMH will develop and distribute to the general public

Methods for provider outreach will include:

- Regular updates on the HAN (Health Alert Network)
- Regular hospital teleconference calls (including both oral presentations and opportunities for audience questions)
- On-site presentations at various locations throughout the city on request (e.g., Greater New York Hospital Association, medical grand rounds, etc)

Finally, updated clinical guidance will be posted on DOHMH Web site and HAN on key topics, including but not necessarily limited to:

- Surveillance criteria and methods for reporting suspected pandemic influenza cases

- Clinical guidelines on caring for patients with suspected or confirmed pandemic influenza (separate guidelines for hospital, long-term care, primary care, and home care settings)
- Pandemic influenza infection control precautions (separate infection control and clinical guidelines will be developed for hospitals, primary care centers, long-term care facilities, outpatient settings, schools, and worksites/businesses)
- Laboratory guidelines including which specimens should be collected for pandemic influenza testing
- Guidelines on antiviral use and priority groups
- Guidelines on vaccine use when vaccine becomes available, fact sheets on vaccine, who should receive it (priority groups), contraindications, how to acquire vaccine, reporting adverse events
- Q&A for NYC providers (will be kept updated with most frequently asked questions that arise from calls to the PAL and during teleconference calls)

All guidance documents will be coordinated with NYS DOH and reviewed to ensure consistency with CDC recommendations.

D. Epidemiologic Studies

The following epidemiologic studies may be considered, especially during the first wave of the pandemic, to inform the public health and medical response. As described above under Surveillance Methods, more detailed case investigation forms would be used for a sample of cases to help inform the design of such studies. Potential studies that would need to be considered include:

- **Priority Issues**: Description of the disease in terms of clinical course and factors which affect severity, secondary complications, case fatality rate, and survival rate including age, gender, underlying illness, bacterial superinfection, and use of immune modulators
- **Transmission factors**: Including incubation period, period of communicability, shedding via respiratory secretions or gastrointestinal tract, risk factors for transmission to household and other contacts (including health care workers), role of children in spread (to help address decisions regarding closing schools), assessment of risk factors associated with cases linked to a higher number of secondary cases
- **Diagnostic issues**: Components of clinical case definition (symptom complex, chest x-ray, CT), validation of case definition with laboratory tests and epidemiologic contact information; the use of rapid antigen testing, virus isolation, serology, other tests; serologic surveys to determine prevalence of antibody indicating recent infection - asymptomatic vs. symptomatic infection
- **Outcomes**: Tracking pneumonia and influenza-related deaths, and potentially related deaths from cardiopulmonary disease, stroke, and other causes. Pathology of pandemic-related deaths in conjunction with OCME and CDC
- **Efficacy of treatment**: Analysis of the efficacy of antiviral medicines by age group, risk groups, synergistic or negative effects of drugs taken simultaneously; dosage, timing of doses versus onset, duration of treatment, likelihood of relapse of illness after course is completed; development of resistance; monitor status of resistance geographically throughout the pandemic

- **Analysis of effect of other treatment components**: Use of ventilators in different population groups, including infants, young children, adolescents, adults, elderly, and the immunosuppressed; variations in benefit by patient population group; use of antibiotics to prevent or treat superinfection; determine benefit or harm of prophylactic use in high risk groups with ILI or confirmed influenza
- **Prevention**: Vaccine efficacy in terms of 1 dose vs. 2 doses; by age group and by underlying conditions (including immunosuppressed); ability to prevent or ameliorate symptoms, hospitalization, or death; institutional outbreak control
- **Efficacy of other preventive measures**: Value of mask, hand washing in family/household or other congregate settings; value of PPE (mask) use among health care workers (apart from contact with known infected person) and people working in crowded, interactive environments; use of quarantine, school closing, canceling of public entertainment events
- **Adverse effects of vaccination, antiviral treatment, or prophylaxis**: Identify adverse effects unknown before mass administration; quantify risk of adverse effects; predisposing factors or populations for whom vaccine or antivirals would be contraindicated
- **Other issues**: Quantify economic and social costs of the outbreak (including impact on the health care system); psychosocial effects should be studied in conjunction with Mental Health epidemiology

Although some of the epidemiologic investigations listed above can be conducted independently by DOHMH, most of these issues are of national concern and should be conducted in collaboration with CDC, FDA, and/or clinical/academic partners. Examples of aspects that should be covered as part of a multi-state investigation include:

- Description of disease and disease outcomes in clinical terms
- Diagnostic issues, including case definition, rapid testing, laboratory testing
- Determination of factors affecting rate of spread
- Measurement of antiviral efficacy, relapse, resistance
- Surveillance of antiviral side effects
- Efficacy of ventilators by level of illness and risk group
- Vaccine efficacy

As staff resources allow, DOHMH will work on planning for such studies ahead of time with input from NYS DOH, CDC, and interested academic partners.

E. Special Planning Needs Related to Vulnerable Populations

- **Children:** All surveillance and epidemiologic activities will capture information on age to identify clinical and epidemiologic characteristics of the pandemic strain specific to children on an ongoing basis. In particular, there will be a special focus on capturing more detailed information on pediatric deaths during the interpandemic and pandemic periods. In addition, clinical studies will be established during the pandemic period to assess predictors of survival among hospitalized pediatric patients, especially those receiving critical care support.
- **Homeless**: Surveillance forms will capture information on patient address, including if the patient is homeless or in a shelter. The S&E section will respond to reports of outbreaks in homeless shelters and provide consultation on infection control methods that can be put in place to minimize spread.
- **Homebound:** The S&E section will monitor pandemic related deaths in homebound patients with the assistance of the OCME and information collected on death certificates. The S&E section will provide clinical guidance on home care for pandemic patients to all home health care agencies in the city
- **Undocumented**: The S&E section will not collect information on residency status, so that information related to the effect of the pandemic on undocumented populations will not be available.
- **Prisoners:** The S&E section will provide consultation to correctional health providers to help minimize spread within correctional facilities.

Interim Case Definition and Testing Guidelines for Suspected H5N1 Cases in the United States

I. Testing is recommended for the following patients.

A patient who has an illness that requires **hospitalization** or is **fatal**

AND

Has a documented temperature of ≥38°C (≥100.4°F)

AND

Has radiographically confirmed pneumonia, acute respiratory distress syndrome (ARDS), or other severe respiratory illness for which an alternate diagnosis has not been established

AND Has at least 1 of the following potential exposures within 10 days of symptom onset:

(1) History of travel to a country with influenza H5N1 documented in poultry, wild birds, and/or humans,[†] **AND** had at least **one of the following** potential exposures during travel:

- Direct contact with (e.g., touching) sick or dead domestic poultry
- Direct contact with surfaces contaminated with poultry feces
- Consumption of raw or incompletely cooked poultry or poultry products
- Direct contact with sick or dead wild birds suspected or confirmed to have influenza H5N
- Close contact (approach within 1 meter [approx. 3 feet]) of a person who was hospitalized or died due to a severe unexplained respiratory illness

(2) Close contact (approach within 1 meter [approx. 3 feet]) of an ill patient who was confirmed or suspected to have H5N1;

(3) Worked with live influenza H5N1 virus in a laboratory.

Testing for avian influenza A (H5N1) virus infection should be **considered** (on a case-by-case basis and in consultation with local and state health departments) for:

(1) A patient with **mild or atypical disease**[‡] (hospitalized or ambulatory) who has one of the exposures listed above (criteria 1, 2, or 3)

(2) A patient with severe or fatal respiratory disease whose epidemiological information is uncertain, unavailable, or otherwise suspicious but does not meet the criteria above**

** Examples include: a traveler returning from an influenza H5N1-affected country whose exposures are unclear or suspicious, a person who had contact with well-appearing poultry, etc.

‡ For example, a patient with respiratory illness and fever who does not require hospitalization, or a patient with significant neurologic or gastrointestinal symptoms in the absence of respiratory disease.

† For a listing of influenza H5N1-affected countries, visit the CDC website at: http://www.cdc.gov/flu/avian/outbreaks/current.htm; the OIE website at: http://www.oie.int/eng/en_index.htm; and the WHO website at: http://www.who.int/csr/disease/avian_influenza/en/.

II. Specimen Collection and Testing Guidelines

- Oropharyngeal swabs and lower respiratory tract specimens (e.g., bronchoalveolar lavage or tracheal aspirates) are preferred because they may have the highest yield for influenza H5N1 detection, based on available data. Nasal or nasopharyngeal swabs are acceptable, but may have lower yield.
- Detection of influenza H5N1 is more likely from specimens collected within the first 3 days of illness onset. If possible, serial specimens should be obtained over several days from the same patient.
- Infection control precautions during specimen collection should include the use of gloves, gown, goggles or face shield, and a fit-tested respirator with an N-95 or higher protection rating. Detailed guidance on infection control precautions for health care workers caring for suspected influenza H5N1 patients is available.[||]
- Swabs used for specimen collection should have a Dacron tip and an aluminum or plastic shaft. Swabs with calcium alginate or cotton tips and wooden shafts are not recommended.[§] Specimens should be placed at 4°C immediately after collection.
- For reverse-transcriptase polymerase chain reaction (RT-PCR) analysis, nucleic acid extraction lysis buffer can be added to specimens (for virus neutralization and RNA stabilization), after which specimens can be stored and shipped at 4°C. Otherwise, specimens should be frozen at or below -70°C and shipped on dry ice. For viral isolation, specimens can be stored and shipped at 4°C. If specimens are not expected to be inoculated into culture within 2 days, they should be frozen at or below -70°C and shipped on dry ice. Avoid repeated freeze/thaw cycles.
- Influenza H5N1-specific RT-PCR testing conducted under Biosafety Level 2 conditions[¶] is the preferred method for diagnosis. The New York State Department of Health and is currently able to perform influenza H5N1 RT-PCR testing, and after consultation with DOHMH physicians, specimens from patients who meet the above criteria will be referred there for testing. [Note: The DOHMH's Public Health Laboratory will be able to offer RT-PCR testing for influenza H5N1 later in 2006].
- Viral culture should **NOT** be attempted on specimens from patients suspected to have influenza H5N1, unless conducted under Biosafety Level 3 conditions with enhancements.[¶]
- Commercial rapid influenza antigen testing in the evaluation of suspected influenza H5N1 cases should be interpreted with caution. Clinicians should be aware that these tests have relatively low sensitivities, and a negative result would not exclude a diagnosis of influenza H5N1. In addition, a positive result does not distinguish between seasonal and avian influenza A viruses.

** For the current WHO Pandemic Phase, see: http://www.who.int/csr/disease/avian_influenza/phase/en/index.html.

† For a listing of influenza H5N1-affected countries, visit the CDC website at: http://www.cdc.gov/flu/avian/outbreaks/current.htm; the OIE website at: http://www.oie.int/eng/en_index.htm; and the WHO website at: http://www.who.int/csr/disease/avian_influenza/en/.

‡ For example, a patient with respiratory illness and fever who does not require hospitalization, or a patient with significant neurologic or gastrointestinal symptoms in the absence of respiratory disease.

§ Specimens can be transported in viral transport media, Hanks balanced salt solution, cell culture medium, tryptose-phosphate broth, veal infusion broth, or sucrose-phosphate buffer. Transport media should be supplemented with protein, such as bovine serum albumin or gelatin, to a concentration of 0.5% to 1%.

|| Interim recommendations for infection control in health-care facilities caring for patients with known or suspected avian influenza are available at: http://www.cdc.gov/flu/avian/professional/infect-control.htm.

¶ Information regarding Laboratory Biosafety Level Criteria can be found at: http://www.cdc.gov/od/ohs/biosfty/bmbl4/bmbl4s3.htm

NYC DOHMH Guidance for Providers on Managing Suspected H5N1 Influenza Cases

PART 1. SUSPECTED CASES AND REPORTING

I. When Should I Suspect Avian H5N1 Influenza?

Providers should take a **travel history** on all patients presenting with a febrile respiratory syndrome **and** should ensure that suspected cases of avian H5N1 influenza meet the following clinical and epidemiologic criteria before reporting to the New York City Department of Health and Mental Hygiene (DOHMH).

I. Testing is recommended for the following patients.

A patient who has an illness that requires **hospitalization** or is **fatal**
AND
Has a documented temperature of ≥38°C (≥100.4° F)
AND
Has radiographically confirmed pneumonia, acute respiratory distress syndrome (ARDS), or other severe respiratory illness for which an alternate diagnosis has not been established
AND has at least **1** of the following potential exposures within 10 days of symptom onset:

(1) History of travel to a country with influenza H5N1 documented in poultry, wild birds, and/or humans,† **AND** had at least **one of the following** potential exposures during travel:

- Direct contact with (e.g., touching) sick or dead domestic poultry
- Direct contact with surfaces contaminated with poultry feces;
- Consumption of raw or incompletely cooked poultry or poultry products
- Direct contact with sick or dead wild birds suspected or confirmed to have influenza H5N;
- Close contact (approach within 1 meter [approx. 3 feet]) of a person who was hospitalized or died due to a severe unexplained respiratory illness.

(2) Close contact (approach within 1 meter [approx. 3 feet]) of an ill patient who was confirmed or suspected to have H5N1;

(3) Worked with live influenza H5N1 virus in a laboratory.

Testing for the following patients will be considered on a case-by-cases basis in consultation with NYC DOHMH:

† For a listing of influenza H5N1-affected countries, visit the CDC website at: http://www.cdc.gov/flu/avian/outbreaks/current.htm; the OIE website at: http://www.oie.int/eng/en_index.htm; and the WHO website at: http://www.who.int/csr/disease/avian_influenza/en/.

(1) A patient with mild or atypical disease‡ (hospitalized or ambulatory) who has one of the exposures listed above (criteria 1, 2, or 3)

(2) A patient with severe or fatal respiratory disease whose epidemiological information is uncertain, unavailable, or otherwise suspicious but does not meet the criteria above

II. Reporting Suspected Cases of Avian H5N1 Influenza

To report patients meeting the above criteria, follow the instructions below.

- During **business hours**, please contact the DOHMH Bureau of Communicable Disease at **212-788-9830** and ask to speak to the Doctor of the Week.
- During non-business hours, please call the New York City Poison Control Center at **1-800-222-1222** or **212-764-7667** and ask to speak to the On Call Physician.

The DOHMH physician will review the case with you to determine if H5N1 testing is indicated based on risk exposure history.

PART 2: CLINICAL GUIDELINES: CARING FOR PATIENTS WITH SUSPECTED OR CONFIRMED AVIAN H5N1 INFLUENZA

All patients who meet clinical and epidemiologic criteria for avian H5N1 influenza should be reported immediately to DOHMH (See Part 1, Suspected Cases and Reporting). The following clinical guidance should be followed:

I. Admitting Suspected Avian H5N1 Influenza Patients

- Providers are encouraged to **admit** patients with suspected avian H5N1 influenza to ensure that infection control precautions are enforced and to enhance the ability to monitor the patient's condition. Especially in those cases where avian H5N1 influenza is strongly suspected (e.g., known exposure to confirmed human case or infected poultry overseas), the patient should be admitted to the hospital until laboratory test results are available to confirm or rule out H5N1 infection.
- For highly suspected cases who refuse hospital admission, the New York City Department of Health and Mental Hygiene (DOHMH) has the authority to detain patients in the hospital suspected of having a communicable disease that may pose an imminent and significant threat to the public health for evaluation, if indicated, while awaiting laboratory test results (Section 11.55 in the NYC Health Code).
- The decision to hospitalize a suspected avian H5N1 influenza case will be based on the physician's clinical evaluation and assessment of epidemiologic risk factors, on whether adequate precautions can be taken at home to prevent the potential spread of infection, and on whether the patient will be readily available for follow up. (Note: Suspected cases

‡ For example, a patient with respiratory illness and fever who does not require hospitalization, or a patient with significant neurologic or gastrointestinal symptoms

occurring among tourists staying at a hotel or in persons living in congregate settings may need to be hospitalized while awaiting laboratory test results.)

- Despite the current low risk of person-to-person transmission, patients not admitted should be separated from other household members as much as possible. All household members should carefully follow recommendations for hand hygiene, and tissues used by the ill patient should be placed in a plastic bag and disposed with other household waste.
- Although no studies have assessed the use of masks at home to decrease the spread of infection, use of surgical or procedure masks by the patient and/or care givers during interactions may be of benefit. Separation of eating and drinking utensils for use by a patient with influenza is not necessary, as long as they are washed with warm water and soap. **(See**

II. Infection Control Measures

Implement infection control precautions for hospitalized patients with suspected avian H5N1 influenza, including Respiratory Hygiene/Cough Etiquette (see Part 3, Avian H5N1 Influenza Infection Control Precautions and Guidance for Contacts).

III. Diagnostic Testing

- Obtain clinical specimens for avian H5N1 influenza diagnostic testing. (See Part 4, What Specimens Should Be Collected for Avian H5N1 Influenza Testing?). Complete the specimen submission form (See Section 3, Appendix 3B-Virus Detection Laboratory Submission Form) and **include the form** with the specimens. A DOHMH courier will pick up the specimens and transport them to appropriate public health reference laboratories for testing. **Do not send specimens for viral culture to a hospital or commercial laboratory**; for safety reasons, avian H5N1 influenza may only be cultured in Basic Safety Level 3+ laboratory facilities. DOHMH personnel will maintain contact with the patient's providers to ensure timely relaying of testing results.
- Evaluate alternative diagnoses based on laboratory tests with high positive-predictive value (e.g., blood culture, PCR, Legionella urinary antigen, pleural fluid culture, transthoracic aspirate culture, etc.). If an alternate etiology is identified, the possibility of co-infection with an avian H5N1 influenza virus may still need to be considered if there is a strong epidemiologic link with possible exposure to an infected human or birds overseas.

IV. Treatment

Initiate antiviral treatment with oseltamivir (Tamiflu) or zanamivir (Relenza) — the neuraminidase inhibitors — as soon as possible, even if laboratory results are not yet available (see Table on page vi for dosing regimens). Oseltamivir is available both in pill and suspension form, and zanamivir is available as an inhaled powder.

The neuraminidase inhibitors are preferred because the majority of avian H5N1 influenza A viruses currently affecting humans are resistant to amantadine and rimantadine, and resistance to adamantanes typically develops rapidly when they are used for treatment of influenza. Clinical trials

have shown that neuraminidase inhibitors can decrease the illness duration due to seasonal influenza by several days when they are initiated within 48 hours of illness onset.

The clinical effectiveness of antiviral drugs for treatment of avian H5N1 influenza is unknown, but it is likely that the earlier treatment is initiated, the greater the likelihood of benefit. Viral isolates from any case of avian H5N1 influenza will be tested by CDC for resistance to the currently licensed antiviral medications. Oseltamivir is available as an oral suspension for use in children. However, none of the available influenza antivirals is currently FDA-approved for use among children aged <1 year. In particular, the safety and efficacy of oseltamivir have not been studied in children aged <1 year for either treatment or prophylaxis of influenza. The decision by an individual physician to treat children aged <1 year in an emergency setting with an antiviral medication on an off-label basis must be made on a case-by-case basis, with full consideration of the potential risks and benefits.

V. Contact Tracing

Though human-to-human transmission of avian H5N1 influenza has occurred only very rarely, DOHMH personnel will assist providers in identifying and monitoring close contacts of suspected or confirmed avian H5N1 influenza patients. Such contacts might include household and social contacts, family members, workplace or school contacts, and/or healthcare providers who had unprotected close contact (i.e., did not use droplet or standard precautions) starting 24 hours prior to the patient's symptom onset.

- **Asymptomatic contacts** should be asked to take their temperature at least twice daily. In conjunction with DOHMH, asymptomatic contacts should be monitored by telephone or home visit daily for 10 days after their last contact with the suspected case-patient to assess for development of symptoms consistent with avian H5N1 influenza. Asymptomatic contacts should not be given antiviral chemoprophylaxis. Quarantine of asymptomatic contacts at home or in another facility is not considered necessary at the present time based on the epidemiologic characteristics of the current avian H5N1 influenza outbreak in Asia and Europe.

- **Symptomatic contacts** of suspected avian H5N1 influenza patients should seek medical attention immediately when symptoms develop and should notify their healthcare provider of recent contact with a suspected avian H5N1 influenza case (see Part 3, Avian H5N1 Influenza Infection Control Precautions and Guidance for Contacts).

The DOHMH should be immediately notified of any contact who develops fever and respiratory symptoms suggestive of avian H5N1 influenza infection; recommendations on whether empiric antiviral treatment is indicated for symptomatic contacts will be made on a case-by-case basis.

VI. Protocol for Patients Testing Positive for Avian H5N1 Influenza

- Patients with laboratory-confirmed avian H5N1 influenza should be isolated and treated with a neuraminidase inhibitor.

Note: CDC is revising its interim guidance for infection control precautions for avian and pandemic influenza. The DOHMH guidance will be revised once these federal recommendations are released.

- Healthcare personnel should use standard and droplet infection control precautions; airborne precautions should be used during procedures that may generate aerosols (e.g., collection of respiratory specimens, bronchoscopy or intubation).
- Avian H5N1 influenza patients should be isolated from patients with seasonal influenza, since such measures may decrease the risk of co-infection and viral genetic reassortment.

TABLE: Recommended Daily Dosage of Antivirals for Treatment and Prophylaxis

	Age Groups (years)				
Antiviral Agent	**1-6**	**7-9**	**10-12**	**13-64**	**≥65**
Amantadine[a]					
Treatment, influenza A (duration 5 days)	5mg/kg body weight/day up to 150 mg in two divided doses[b]	5mg/kg body weight/day up to 150 mg in two divided doses[b]	100 mg twice daily[c]	100 mg twice daily[c]	≤100 mg/day
Prophylaxis, influenza A	5mg/kg body weight/day up to 150 mg in two divided doses[b]	5mg/kg body weight/day up to 150 mg in two divided doses[b]	100 mg twice daily[c]	100 mg twice daily[c]	≤100 mg/day
Rimantadine[d]					
Treatment[e], influenza A (duration 5 days)	NA[f]	NA	NA	100 mg twice daily[c,g]	100 mg/day
Prophylaxis, influenza A	5mg/kg body weight/day up to 150 mg in two divided doses[b]	5mg/kg body weight/day up to 150 mg in two divided doses[b]	100 mg twice daily[c]	100 mg twice daily[c]	100 mg/day[h]
Zanamivir[i, j]					
Treatment, influenza A and B (duration 5 days)	NA	10 mg twice daily	10 mg twice daily	10 mg twice daily	10 mg twice daily
Oseltamivir					
Treatment,[k] influenza A and B (duration 5 days)	Dose varies by child's weight[l]	Dose varies by child's weight[l]	Dose varies by child's weight[l]	75 mg twice daily	75 mg twice daily
Prophylaxis, influenza A and B	NA	NA	NA	75 mg/day	75 mg/day

Adapted from Prevention and Control of Influenza Recommendations of the Advisory Committee on Immunization Practices (ACIP), July 2005. Link to on-line document http://www.cdc.gov/mmwr/preview/mmwrhtml/rr54e713a1.htm

NOTE: Amantadine manufacturers include Endo Pharmaceuticals (Symmetrel (R)-tablet and syrup) and Geneva Pharms Tech (Amantadine HCL-capsule); USL Pharma (Amantadine HCL-capsule and tablet); and Alpharma, Carolina Medical, Copley

Pharmaceutical, HiTech Pharma, Mikart, Morton Grove, and Pharmaceutical Associates (Amantadine HCL-syrup), and Sandoz. Rimantadine is manufactured by Forest Laboratories (Flumadine (R)-tablet and syrup); Corepharma , Impax Labs (Rimantadine HCL-tablet), and Amide Pharmaceuticals (Rimantadine HCL-tablet). Zanamivir is manufactured by GlaxoSmithKline (Relenza (R)-inhaled powder). Oseltamivir is manufactured by Roche Pharmaceuticals (Tamiflu (R)-tablet). Information based on data published by the U.S. Food and Drug Administration at www.fda.gov, accessed 3/30/2005.

[a] The drug package insert should be consulted for dosage recommendations for administering amantadine to persons with creatinine clearance ≤50 ml/min/1.73m^2.

[b] 5 mg/kg body weight of amantadine or rimantadine syrup = 1 tsp/2.2 lbs.

[c] Children aged ≥10 years who weigh <40 kg should be administered amantadine or rimantadine at a dosage of 5 mg/kg body weight /day.

[d] A reduction in dosage to 100 mg/day of rimantadine is recommended for persons who have severe hepatic dysfunction or those with creatinine clearance <10 ml/min. Other persons with less severe hepatic or renal dysfunction taking 100 mg/day of rimantadine should be observed closely, and the dosage should be reduced or the drug discontinued, if necessary.

[e] Approved by FDA only for treatment among adults.

[f] Not applicable.

[g] Rimantadine is approved by FDA for treatment among adults. However, certain experts in the management of influenza consider it appropriate for treatment among children. (See American Academy of Pediatrics, 2003 Red Book.)

[h] Older nursing home residents should be administered only 100 mg/day of rimantadine. A reduction in dosage to 100 mg/day should be considered for all persons aged >65 years if they experience possible side effects when taking 200 mg/day.

[i] Zanamivir administered via inhalation using a plastic device included in the medication package. Patients will benefit from instruction and demonstration of the correct use of the device.

[j] Zanamivir is not approved for prophylaxis.

[k] A reduction in the dose of oseltamivir is recommended for persons with creatinine clearance <30 ml/min.

[l] The dose recommendation for children who weigh ≤15 kg is 30 mg twice a day. For children who weigh >15 to 23 kg, the dose is 45 mg twice a day. For children who weigh >23 to 40 kg, the dose is 60 mg twice a day. And for children who weigh >40 kg, the dose is 75 mg twice a day.

- For patients suspected to have secondary bacterial infections (e.g., pneumonia due to pneumococci or staphylococci, including methicillin-resistant strains), appropriate antibacterial therapy should be employed. Supportive measures such as intravenous fluids, parenteral feeding, and intubation with mechanical ventilation should be employed as medically indicated.
- There are currently no data to suggest that corticosteroids or other disease modifying agents (e.g., anti-tumor necrosis factor agents) are effective in the treatment of avian H5N1 influenza.

PART 3: AVIAN H5N1 INFLUENZA

Infection Control Precautions and Guidance for Contacts

I. Avian H5N1 Influenza Transmission

Most information on the modes of influenza transmission from person to person is indirect and largely obtained through observations during outbreaks in healthcare facilities and other settings (e.g., cruise ships, airplanes, schools, and colleges); the amount of direct scientific information is very limited. However, the epidemiologic pattern observed is generally consistent with spread through close contact (i.e., exposure to large respiratory droplets, direct contact, or near-range exposure to aerosols).

While some observational and animal studies support airborne transmission through small particle aerosols, there is little evidence of airborne transmission over long distances or prolonged periods of

time (as is seen with tuberculosis). The relative contributions and clinical importance of the different modes of influenza transmission are currently unknown.

For patients meeting clinical and epidemiologic criteria for suspected avian H5N1 influenza infection (see Part 1, Suspected Cases and Reporting) but have not yet tested positive for avian H5N1 influenza, the following infection control procedures should be followed:

- Patients should be admitted to a single-patient room, and patient movement and transport within the hospital should be limited to medically necessary purposes.
- **Do not send specimens for viral culture to a hospital or commercial laboratory**; for safety reasons, avian H5N1 influenza may only be cultured in Basic Safety Level 3+ laboratory facilities. DOHMH personnel will assist in arranging laboratory testing at appropriate public health reference laboratories (See Part 4, What Specimens Should Be Collected for Avian H5N1 Influenza Testing?) and will maintain contact with the patient's providers to ensure timely relaying of testing results.
- While awaiting avian H5N1 influenza test results, patients should be placed on **droplet precautions**. Health care personnel should wear surgical or procedure masks on entering a patient's room, as per droplet precaution recommendations, as well as gloves and gowns when indicated for **standard precautions** (i.e., wear gloves when patient contact is suspected, and wear gown when soiling of providers clothes with patient's body fluids is possible).
- Airborne isolation procedures, including moving patient to an airborne infection isolation room (AIIR) and using N95 respirators, should be used during procedures with the potential to generate aerosols (e.g., collection of respiratory specimens, intubation, bronchoscopy, and nebulizer treatments). Wearing goggles or face shield for routine contact with suspected avian H5N1 influenza patients is not necessary unless sprays or splatter of infectious material is likely.

II. Patients Testing Positive For Avian H5N1 Influenza

Infection control precautions for confirmed avian H5N1 influenza patients are the same as for those with suspected disease. **Droplet Precautions** should remain in place unless there is full resolution of illness. Healthcare personnel should continue to wear surgical or procedure masks on entering a patient's room, as per Droplet Precautions, as well as gloves and gowns when indicated for **Standard Precautions**. As with suspected disease, airborne isolation procedures should be used during procedures with the potential to generate aerosols.

III. Management of Contacts of Suspected Cases

Determine if any close contacts (e.g., household, sexual, etc.) of the suspected case currently have fever and respiratory symptoms.

Symptomatic contacts who report avian H5N1 influenza risk exposures should be treated as a suspected case. If the symptomatic contact reports no risk exposures except contact with the suspected avian H5N1 patient, and they are not ill enough to be hospitalized based on clinical criteria

Note: CDC is revising its interim guidance for infection control precautions for avian and pandemic influenza. The DOHMH guidance will be revised once these federal recommendations are released.

alone, advise them to stay home and follow what the Centers for Disease Control and Prevention (CDC) has called "cough etiquette" (for more information, go to http://www.cdc.gov/flu/professionals/infectioncontrol/resphygiene.htm)

- Cover nose and mouth when coughing or sneezing
- Use tissues to contain respiratory secretions and, after use, dispose in the nearest waste receptacle
- Wash hands with non-antimicrobial soap and water, alcohol-based hand rub or antiseptic handwash after having contact with contaminated respiratory secretions or objects/materials that may be contaminated.

Asymptomatic contacts, including hospital contacts, should be asked to take their temperature at least twice daily. In conjunction with DOHMH, asymptomatic contacts should be monitored by telephone or home visit daily for 10 days after their last contact with the suspected case-patient to assess for development of symptoms consistent with avian H5N1 influenza. Asymptomatic contacts should not be given antiviral chemoprophylaxis. Quarantine of asymptomatic contacts at home or in another facility is not considered necessary at the present time based on the epidemiologic characteristics of the current avian H5N1 influenza outbreak in Asia and Europe.

- If an asymptomatic contact subsequently develops fever or respiratory symptoms, they should contact their healthcare provider and inform them of their exposure to a suspected avian H5N1 influenza case before proceeding to the provider's office or clinic so that proper infection control measure may be implemented when they arrive. The DOHMH should also be notified immediately.
- For symptomatic contacts, DOHMH will facilitate diagnostic testing, including guidance for specimen collection, transport of specimens, and relaying of testing results back to providers. DOHMH will also ensure that contacts of the symptomatic contact know of their possible exposure, and that they self-monitor for fever daily. Finally, DOHMH will facilitate reporting of case to CDC, where appropriate.

Viral culture is not recommended on specimens of any kind from patients with suspected avian H5N1 influenza due to biosafety concerns. Culturing avian H5N1 influenza viruses may only occur in a Biosafety Level 3+ laboratory, which excludes all New York City (NYC) hospital and commercial laboratories.

PART 4: AVIAN H5N1 INFLUENZA --WHAT SPECIMENS SHOULD BE COLLECTED FOR TESTING?

I. Testing for Avian H5N1 Influenza

Testing for avian H5N1 influenza may only be carried out in a reference laboratory (e.g., authorized state or local public health laboratory, or CDC). Testing may be done on respiratory samples by reverse transcriptase polymerase chain reaction (RT-PCR) testing (see below), and serological confirmation may also be carried out. In addition, post-mortem testing on various tissues is also available.

The following respiratory specimens should be collected and stored at 4°C for both RT-PCR and viral culture testing. All suspected cases should be reported to the NYC Department of Health and Mental Hygiene (DOHMH). After arrangements have been made with DOHMH (See Part 4, When Should I Suspect Avian H5N1 Influenza and How Do I Report It?), a DOHMH courier will transport specimens to the Public Health Laboratory.

At least **1 nasopharyngeal** (NP) **and 1 oropharyngeal** (OP) swab as follows:

- Collect specimen with a sterile Dacron/nylon swab with a non-wooden shaft (do NOT use calcium alginate swabs or swabs with wooden sticks).
- For NP swab, insert swab into nostril parallel to the palate until the tip reaches the nasopharynx and leave in place for a few seconds to absorb secretions. For OP swab, swab the posterior pharynx and tonsillar areas, avoiding the tongue.
- Place swab immediately into sterile vials containing 2 ml of viral transport media. Label each specimen container with patient's FIRST AND LAST NAME, date of birth, medical record number, date of collection, and specimen type.
- Place specimen vial onto ice or in refrigerator prior to and during transport to laboratory. Do not freeze it.
- Avoid delays in transport and testing.
- An OP swab may be more likely than an NP swab to yield a positive result. While both specimens should be acquired, an OP swab should be obtained if only 1 sample can be taken.

Nasopharyngeal wash/aspirates may also be used for diagnosis of avian H5N1 influenza. It is recommended that nasal wash/aspirate be collected as follows:

- Have the patient sit with head tilted slightly backward. Instill 1ml.-1.5ml. of bacteriostatic saline (pH 7.0) into 1 nostril.
- Insert the tubing into the nostril parallel to the palate.
- Aspirate nasopharyngeal secretions. Repeat this procedure for the other nostril.
- Rinse catheter into viral transport medium (syringe or bulb) or aspirate viral transport medium through catheter into collection trap.
- Place specimen onto ice or in refrigerator prior to and during transport to laboratory. Do not freeze it.
- Avoid delay in transport and testing.

An **acute serum sample** should also be obtained from all suspected cases as follows:

- Draw 5-10 ml whole blood into a serum separator or red top tube.
- Spin down and refrigerate at 4°C.
- Label each specimen container with patient's FIRST AND LAST NAME, medical record number, date of birth, specimen type, and collection date.

All information requested on the Virus Detection Laboratory Submission Form (see Section 3, Appendix 3B Virus Detection Laboratory Submission Form) should be completely filled out and the form should be included with the specimen shipment.

In fatal cases associated with suspected avian H5N1 influenza infection, DOHMH personnel will help make arrangements for autopsy and coordinate specimen shipping and testing with the NYC Office of the Chief Medical Examiner and CDC.

II. Rapid Testing for Avian H5N1 Influenza

Rapid influenza diagnostic tests and immunofluorescence (indirect fluorescent antibody staining [IFA] or direct fluorescent antibody staining [DFA]) may be used to detect seasonal human strains of influenza, but should not be used to confirm or exclude avian H5N1 influenza.

Rapid influenza tests have relatively low sensitivity for detecting seasonal influenza, and their ability to detect avian H5N1 influenza is unknown. The sensitivity of rapid diagnostic tests will likely be higher in specimens collected within 2 days of illness onset, in children, and when tested in clinical laboratories that perform a high volume of testing. Such tests can identify influenza A viruses but cannot distinguish between human infection with seasonal and avian H5N1 influenza viruses.

A **negative** rapid influenza test result does not exclude human infection with either seasonal or avian H5N1 influenza viruses. A **positive** rapid influenza test result could be a false positive or represent infection with either seasonal or avian H5N1 influenza viruses. Therefore, both negative and positive rapid influenza test results and immunofluoresence results should be interpreted with caution, and RT-PCR testing for suspected avian H5N1 influenza virus should be performed in a reference laboratory, as outlined above.

The City of New York Department of Health and Mental Hygiene
Public Health Laboratories
455 First Avenue
New York, NY 10016
(212) 447-2896
Judith Lovchik, Ph. D., A.B.M.M.
jlovchik@health.nyc.gov

VIRUS DETECTION LABORATORY SUBMISSION FORM
(ALL INFORMATION IS REQUIRED)

PATIENT	MEDICAL RECORD #	SOCIAL SEC #	MEDICAID #
LAST NAME		FIRST NAME	
STREET ADDRESS			APARTMENT
BORO ☐ MN ☐ BK ☐ BX ☐ Outside NYC ☐ QN ☐ SI City: _____	STATE	ZIP	TELEPHONE
DATE OF BIRTH MM DD YY	AGE	SEX ☐ Male ☐ Female	RACE ☐ Black ☐ White ☐ Asian ☐ Other ☐ Hawaiian/PacIsl ☐ Alaskan/NatAmer ☐ Unk
ETHNICITY ☐ Hispanic ☐ Non-Hispanic			

SUBMITTER	HOSPITAL/FACILITY NAME	DEPARTMENT
ADDRESS		CITY STATE ZIP
PHYSICIAN	BEEPER/CELL #	TELEPHONE

SPECIMEN	Date Collected	Onset Date	Virus suspected
	/ /	/ /	

TYPE OF SPECIMEN	TEST REQUESTED Isolation and/or Detection of
☐ Nasopharyngeal	☐ Respiratory virus
☐ Lower Respiratory (specify)_____	☐ Aseptic meningitis virus
☐ CSF	☐ Gastrointestinal virus
☐ Stool	☐ Encephalitis virus
☐ Other (specify)_____	☐ Other (specify)_____

Signs, Symptoms, Provisional diagnosis		Exposure/Travel History
☐ Fever	☐ Diarrhea and/or Vomiting	
☐ Rash	☐ Central nervous System	
☐ Upper Respiratory	☐ Lower Respiratory	
☐ Other (specify)_____		

Comments: _____

ADDITIONAL TESTS MAY BE PERFORMED ON THESE SPECIMENS FOR PUBLIC HEALTH EPIDEMIOLOGIC PURPOSES

PATIENT ID # (PHL USE ONLY)	PHL ACCESSION # (PHL USE ONLY)

07.06

Management of Patients Presenting with Communicable Diseases of Urgent Public Health Concern

TABLE OF CONTENTS

Section I.

Triage protocol for prompt recognition and isolation of a single patient presenting to the ED/Clinic with fever/rash or fever/respiratory illness suggestive of a communicable disease of urgent public health concern (e.g., measles, meningococcal disease, SARS, avian influenza, smallpox, or plague)

Introduction	48
Background for this Guidance Document	49
How to Use and Working With This Guidance Document	49
1. Initial Patient Encounter	50
2. Infection Control Measures on Arrival	53
3. Notification and Evaluation	56
4. Identification and Management of Exposed Persons in the ED/clinic	58
Examples of Communicable Diseases of Urgent Public Health Concern	60
Generic Notification Job Action Sheets	61
Sample Contact Tracing Collection Form	64

Section II.

Surge triage protocol for prompt recognition and isolation in the event of an influx of patients presenting to the ED/Clinic with a suspected or confirmed communicable disease of urgent public health concern (e.g., an outbreak of SARS or pandemic influenza, or a bioterrorist attack involving plague or smallpox). **[NOTE: This section of the guidance document is currently being developed and will be shared at a later date.]**

Introduction

The impact on hospitals affected by the 2003 outbreak of Severe Acute Respiratory Syndrome (SARS) highlighted the critical importance of rapid recognition and isolation of patients with more highly communicable diseases to prevent nosocomial spread to other patients, staff and visitors. Although New York City (NYC) was spared during the international outbreak of SARS, recent delays

in identifying and isolating patients with measles in NYC emergency departments and clinics demonstrate the need to ensure that effective measures are routinely in place for triaging potential contagious patients with fever and respiratory or rash illnesses.

Because emergency departments (ED) and clinics are important and vulnerable points of entry into a hospital, effective strategies for triage applied in these settings will have great impact on minimizing nosocomial transmission within and beyond the ED and clinics. Also, expertise gained in planning for ED/Clinic communicable disease triage will be useful in identifying and controlling infectious diseases in other clinical settings.

Background for this Guidance Document

The following guidance document has been prepared to assist hospitals in developing or updating their protocols for screening and isolation for communicable diseases of urgent public health concern (i.e., diseases with greater likelihood of spread to others, and with higher likelihoods of more severe morbidity or mortality; see the Table on page 13, Examples of Communicable Disease of Urgent Public Health Concern) in their EDs and clinics. Separate guidance is provided for the following two situations:

- A single patient presenting to the ED/clinic with fever/rash or fever/respiratory symptoms suggestive of a communicable disease of urgent public health concern (e.g., measles, meningococcal disease, SARS, avian influenza, smallpox, or plague)
- An influx of patients coming to the ED/clinic after an outbreak of a communicable disease of urgent public health concern is confirmed (e.g., SARS, pandemic influenza, possible bioterrorist attack involving plague or smallpox)

  Note: This section of the guidance document is currently being developed and will be shared at a later date.

How to Use and Working With This Guidance Document

This guidance document is meant to serve as a standardized template format for hospitals to customize their institution's ED/Clinic screening/isolation protocols and should be considered a living document (i.e., one that evolves as needed to fit the needs and culture of each hospital).

The primary objectives of this guidance are to

- Enhance early recognition of a patient who may have a communicable disease of urgent public health concern upon arrival at the hospital ED or clinic;
- Prompt the rapid institution of infection control measures to minimize potential transmission to staff, patients and visitors.
- Provide a template from which hospitals may operationalize their plans.

The New York City Department of Health and Mental Hygiene (NYC DOHMH) recognizes that there are limitations to these guidelines that may make it difficult to implement routinely. Factors that may limit the ability to adhere to this guidance include:

- During the winter respiratory viral season, when larger numbers of patients present with fever and respiratory symptoms, it may be more difficult to recognize patients who may present with nonspecific, prodromal symptoms of communicable diseases that are of urgent public health concern (e.g., index patient with SARS presenting at the peak of the winter influenza season)
- Limitations in hospital surge capacity to handle larger numbers of potentially contagious patients (e.g., limited airborne infection isolation rooms {AIIRs}, or small waiting rooms that do not easily allow hospitals or clinics to separate patients with fever and cough or rash symptoms)

The first part of this guidance document is composed of four sections:

I. Initial Patient Encounter

II. Infection Control Measures on Arrival

III. Notification

IV. Identification and Management of Exposed Persons in ED/Clinics.

However, given the potential implications of delayed recognition of a patient with a more highly communicable disease, this guidance document provides a standardized format for hospitals to use for their triage protocols for infectious diseases in their ED and clinics. Regular trainings and drills for frontline staff (triage, reception, security as well as nursing and medical staff) on the measures outlined in this protocol, including notification procedures, are essential to ensure compliance with these measures.

In each section, the DOHMH provides suggested text and/or examples. Sections that the DOHMH considers critical to an effective triage protocol for patients who may have a communicable disease of urgent public health concern are highlighted in **bold** text. If appropriate for your facility, the text and/or examples can be incorporated directly into your hospital protocol. If needed, space is provided after each section to allow hospitals to add information from their own facility-specific plans.

NYC DOHMH recommends that each hospital convene a working group composed of staff from key hospital departments to review and sign off on the finalized hospital screening/isolation protocol. Suggested members for your hospital working group would include Emergency Department, Infection Control/ Infectious Disease, Hospital Administration, Security, Housekeeping, and/or Facility Engineering.

Hospitals are encouraged to use standard terminology and approaches that are consistent with recommendations by the Centers for Disease Control and Prevention (CDC) and their Healthcare Infection Control Practices Advisory Committee (HICPAC). A copy of the *Draft Guidelines for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings* from HICPAC is electronically attached.

1 Initial Patient Encounter

Effective screening for and isolation of potentially infectious patients, especially those who may be at risk for airborne or droplet transmission of infectious agents to others, is critical to ensure prompt recognition and isolation as soon as possible after patient arrival. The following measures are recommended to be routinely in place to help decrease transmission of infectious agents to staff, visitors and other patients:
(NOTE: The first two sections below should be considered standard measures for all EDs and clinic to routinely have in place.)

- **Place surgical masks and alcohol hand hygiene products as close as possible to all entranceways to ED/Clinics so that they are available to all patients and visitors coming to the hospital/clinic.**
- **Signage (see below) should be placed next to these items and be clearly visible.**
- **Boxes of tissues, waste baskets, and alcohol-based hand hygiene products should be placed throughout the ED/clinic waiting areas and examination rooms.**
  - Signage should have a simple, clear message in large font stating that all patients who come in with fever and respiratory symptoms or rash should wear a mask and perform hand hygiene with the alcohol hand hygiene products available at the entranceway. They should then proceed directly to the registration desk and/or triage nurse and alert staff to their symptoms.
  - Signage should show patients how to wear the mask correctly and how to use the alcohol hand hygiene products.
  - Other options: Show a streaming video on TV/media equipment in ED/clinic waiting areas that demonstrate proper methods for hand hygiene, usage of surgical mask, and how patients should alert ED/clinic staff if they have fever and respiratory or rash symptoms. "Cover Your Cough" posters in various languages can be obtained from the DOHMH website: http://www.nyc.gov/html/doh/html/cd/cd-cough.html.

(NOTE: List other locations in hospital where signage masks and alcohol hand hygiene products will be placed).

_____

_____

_____

Signage should be in all languages that are appropriate for your patient community.

(NOTE: List languages that will be used for signage at your facility):

_____

_____

_____

Which title(s) in your hospital will be responsible for posting the signage and determining the location of the signage/alcohol-based hygiene products/masks?

_____

_____

_____

Triage/screening staff should have a reminder system that will prompt them to perform "communicable disease triage screening" for respiratory or rash communicable diseases of urgent public health concern on ALL patients who present or self-identify with a fever. Screening should include asking all patients with fever about the presence of respiratory symptoms (cough or shortness of breath) and rash symptoms, as well as epidemiologic risk factors, such as recent travel. Triage/screening staff should note the time at which the patient was triaged on the patient's ED record.

The following questions should be asked of all patients at the initial screening:

- Have you had fever (elevated temperatures) in the past two weeks?
- Have you had cough or a rash in the past two weeks?
- Have you had shortness of breath or difficulty breathing in the past two weeks?

For patients reporting fever and respiratory/rash symptoms

- Have you traveled outside the United States or had close contact with someone who has recently traveled outside the United States, in the past two weeks? If yes, ask where:

  _____

- Are you a healthcare worker (e.g., nurse, physician, ancillary services personnel, allied health services personnel, hospital volunteer, or laboratory worker) who has had a recent exposure to an individual with a highly communicable disease or unexplained, severe febrile respiratory or rash disease?
- Do any of the people who you have close contact with at home, work or your friends have the same symptoms?

(NOTE: Consider incorporating the above questions into your hospital's triage screening sheet or keeping as a separate but written document.)

A positive communicable disease triage screen is considered for any patient who meets one of the two 2 following criteria:

- Any patient with fever and rash
- Any patient with fever and respiratory symptoms who reports any of the following epidemiologic risk factors:
  - Travel to an area that is currently experiencing or is at risk for a communicable disease outbreak of urgent public health concern (e.g., country currently experiencing an outbreak of avian influenza, or country at higher risk for re-emergence of SARS, such as mainland China)

    [NOTE: Since triage/screening staff may not be aware of which countries are at risk, infection control practitioners (ICPs) should be instructed to consult the DOHMH website for recent health alerts: http://www.nyc.gov/html/doh/ or the CDC website at http://www.cdc.gov/travel/. ICPs may want to check for this information on a daily or weekly

basis so that they can be posted on a nearby ED/clinic bulletin board to update the ED/clinic staff.];

- Contact with someone who is also ill and traveled to an area that is to known to be or is at risk for a communicable disease outbreak of urgent public health concern as outlined above;
- Healthcare worker (e.g., nurse, physician, ancillary services personnel, allied health services personnel, hospital volunteer) with a recent exposure to a potential communicable disease of urgent public health concern;
- Anyone who reports being part of a cluster of two or more persons with a similar febrile, respiratory illness (e.g., household, work or social cluster).

Patients who meet either of the criteria above for a positive communicable disease triage screen should be prioritized for individual placement in an AIIR or private room pending clinical evaluation. Both patient and triage staff should perform hand hygiene.

Hospitals may consider any of the following methods to help prompt staff to routinely use this communicable disease triage screening tool:

- A poster or desk chart that is placed in a location that is easily seen by the triage or registration staff.
- Including the communicable disease triage screening questions on all paper-based registration or triage forms, or a sticker that is placed on all forms for patients who report fever.
- In hospitals with computerized ED or clinic registration systems, adding a computer prompt that asks all patients about fever symptoms. For patients that report fever, the communicable disease triage screening tool will automatically pop-up on the computer screen.

(NOTE: List methods that your hospital uses or will use to ensure that triage/screening staff queries all patients regarding fever and respiratory/rash symptoms on initial encounter.)

1. _____

2. _____

2. Infection Control Measures on Arrival

When a patient with a positive communicable disease triage screen is identified, prompt implementation of Standard Precautions, respiratory hygiene/cough etiquette [standard respiratory precautions], and appropriate isolation precautions based on the suspected infection will decreases the risk of transmission to others.

- **The patient should be given a surgical mask immediately, if not already wearing one.** The patient should be shown how to wear the mask and instructed to wear this mask at all times. The patient should keep the mask on at all times while in the isolation room (unless it is an AIIR) in order to minimize contamination of the room. The patient should be instructed on how to perform hand hygiene after coughing or other contact with respiratory secretions or their rash.

  [NOTE: The following considerations should be made for patients who may have difficulty

breathing with a mask on, such as allowing a looser fit of the surgical mask (e.g., surgical masks with ties) or providing them with their own supply of tissues. Strict hand hygiene should be reinforced for these individuals.]

Surgical masks may not be feasible for young children with a positive communicable disease triage screen to wear. In these situations, the child and accompanying adults should be seen as quickly as possible by the triage staff and placed in an appropriate isolation room or an area in the waiting room in a way that allows at least 3 feet separation from other persons. The parents should be instructed to wash their hands and their children's hands with soap and water, or alcohol hand hygiene products frequently, especially after the child coughs, sneezes or has other direct contact with oral secretions.

- **Patients need to be separated from others in an isolation room or in the waiting area pending medical evaluation.** Depending on the space resources available in the hospital ED or clinic, isolation options in decreasing order of preference include:
  - Airborne Infection Isolation Room (AIIR): negative pressure isolation rooms with a minimum of 6-12 air exchanges per hour and direct exhaust to the outside which is located more than 25 feet from an air intake and from where people may pass (if air cannot be exhausted directly to the outside more than 25 feet from an air intake and from where people may pass, then air should be filtered through an appropriately installed and maintained HEPA filter). These rooms should be tested monthly (and daily when in use) to verify negative airflow.
  - Pre-identified enclosed private room(s): an examination room with a door that is kept closed to the hallway. (Self-closing doors are preferable).

    Note: These rooms should be tested by Facility Engineering beforehand to ensure that the rooms are exhausted appropriately (i.e., not positive pressure and do not share airflow with other rooms.)
  - Pre-identified examination area, even if not individual rooms, to cohort patients with similar symptoms. Patients should be separated from each other by at least three feet (more if possible).
  - If an AIIR, private room or pre-identified examination area is not available, the patient should be asked to stay in an area of the waiting room that allows at least three feet of separation between the patient and others in the waiting area. The patients should be instructed to keep the surgical mask on at all times while in the waiting area and discouraged from walking around the ED/hospital.
  - Portable isolation chambers can also be considered as an alternative if neither AIIR nor private rooms are available.

[NOTE: List options that may be available in your hospital to separate or isolate patients with a positive communicable disease triage screen]

_____

_____

_____

If patients are placed in an AIIR or isolation room, appropriate infection control signage based upon the route of transmission for the suspected disease of concern and/or Hospital Infection Control policies should be posted outside the patient's isolation room signifying the need for precautions until a medical evaluation determines that the patient does not have a contagious disease requiring isolation. At a minimum, droplet and contact precautions should be used for all patients with a positive communicable disease triage screen.

Once a patient has been placed in an AIIR or isolation room, the nurse should document the time that the patient was placed in the room, as well as the type of infection control precautions implemented (e.g., airborne, contact) on the patient's ED record.

The management of PPE disposal should be consistent with your hospital's infection control policies.

- All appropriate PPE should be stocked outside the door to the patient's AIIR or isolation room. Appropriate PPE for select pathogens can be found at the CDC website: http://www.cdc.gov/ncidod/hip/ISOLAT/ISOLAT.HTM as well as in the *2004 DRAFT HICPAC Infection Control Guidelines: Appendix B. Type and Duration of Precautions Recommended for Selected Infections and Conditions*.
- Signage on the proper method of donning and removing PPE should be prominently displayed outside or nearby all AIIRs in the ED and clinics. Alcohol hand hygiene products or a sink with hot water, soap and paper towels should be available.
- If available, patients with a positive communicable disease triage screen should be placed in an AIIR *with an anteroom* that has a sink, so that persons leaving the room can dispose of PPE immediately and wash their hands before exiting to the hallway.
- **In the absence of an anteroom, gowns and gloves should be removed inside the patient's room and discarded in a waste receptacle just inside the room by the door. Hand hygiene products should be placed right outside the door so that staff can use immediately after removal of respiratory protection equipment. Doing this prevents staff from wearing the same gloves and gowns after leaving the isolation room and contaminating other areas of the ED/clinic.** Signage should be placed to remind staff of this protocol. A separate waste receptacle should be placed *immediately outside* the patient's room for disposal of respirators.
- Limit as much as possible the number of persons who enter the patient's room, as well as the traffic in and out. Entry should be limited to necessary hospital staff and public health personnel. Visitors should be excluded, as much as possible, from entering the patient's room.

  (NOTE: Please add any additional information regarding how your hospital will manage individuals who accompany the patients with a positive communicable disease triage screen while awaiting clinical evaluation of the patient.)

_____

_____

_____

- After use, all PPE should be placed into a plastic biohazard bag and left in the patient's room (gowns and gloves) or outside of the room (respirators) -- ideally, in the anteroom, if an isolation room with anteroom is available. If positive air pressure respirators (PAPR) are used, the PAPR should be cleaned and disinfected prior to entering another patient's room. **Please note that PAPRs should not be considered a higher level of protection and their use should be limited to men with facial hair or for those individuals who are have documented poor fit for N95 respirators.**

  _____

  _____

  _____

- As much as possible, when contact precautions are indicated, dedicated patient care equipment (e.g., blood pressure cuffs and stethoscopes) should be assigned to and left in the patient's room. **If equipment must be used on other patients (e.g., portable X-ray machine), meticulously clean and disinfect the equipment with EPA-registered hospital disinfectants (e.g., quaternary ammonium compounds) or sodium hypochlorite.**

  _____

  _____

  _____

- Use disposable items whenever possible.
- Dispose of all non-sharps waste in biohazard bags for disposal or transport for incineration or other approved disposal method.
- All used laundry and linens should be handled carefully to prevent aerosolization or direct contact with potentially infectious material. **Anyone directly handling the patient's linen or laundry should wear appropriate PPE.**

3. Notification and Evaluation

Once triage staff has identified a patient with a positive communicable disease triage screen, prompt notification of appropriate staff should be instituted to ensure rapid evaluation of the patient for a potentially communicable disease of urgent public health concern. It is crucial to identify key staff ahead of time to ensure notification occurs rapidly.

[NOTE: The following notification format should be revised for your own hospital. Generic Job Action Sheets for this notification section are included in the Appendix. Hospitals should develop additional Job Action Sheets as needed: Housekeeping, Security.]

- Triage/screening staff (or person who has initial encounter with the patient and conducts communicable disease triage screening) notifies ED Supervisor (i.e., person in leadership position in ED) who ensures that the appropriate infection control measures have been put into place.

Title of ED Supervisor: (Business Hours): _____

Title of ED Supervisor: (After-Business Hours): _____

- ED Supervisor designates an ED physician to conduct the initial patient evaluation. The ED physician should don the appropriate PPE outside the patients AIIR/isolation room to examine the patient and determine if patient is at risk for a communicable disease of urgent public health concern. The ED physician should document the time at which the patient evaluation is done on the patient's ED record.

  _____

  _____

- If ED Physician feels that the patient potentially has a communicable disease of urgent public health concern, the ED physician or his/her designee will notify the Infectious Disease Consult/Infection Control Practitioners, Hospital Administrator On-Duty, Nursing Head, and Housekeeping.

  Contact Information for Infectious Disease Consult

  (Business Hours): _____

  (After-Business Hours): _____

  Contact Information for Infection Control Practitioners

  (Business Hours): _____

  (After-Business Hours): _____

  Contact Information for Administrator On-Call

  (Business Hours): _____

  (After-Business Hours): _____

  Contact Information for Nursing Administration

  (Business Hours): _____

  (After-Business Hours): _____

  Contact Information for Housekeeping

  (Business Hours): _____

  (After-Business Hours): _____

Infection Control or the ED physician will notify the NYC DOHMH. NYC DOHMH will provide guidance on the clinical and laboratory assessment of the patient, management of ED or clinic

contacts, and/or prophylaxis/treatment. Depending on the situation, a medical epidemiologist from the DOHMH may need to come on site to coordinate the case and contact investigation with the hospital staff.

4. Identification and Management of Exposed Persons in the ED/Clinic

As soon as it is determined that a patient has a suspected or confirmed communicable disease of urgent public health concern, it will be essential to identify all contacts in the ED or clinic (including other patients and visitors in the waiting area during the time the patient was there). This should be done in coordination with the NYC DOHMH. (NOTE: The NYC DOHMH will be responsible for identifying close contacts outside of the hospital or clinic setting, such as home, social and workplace contacts).

- If not already done, the Infection Control Practitioner or his/her designee should notify the NYC DOHMH. Contact Information for NYC DOHMH:
  (Business Hours): Provider Access Line: 1-866-NYC-DOH (692-3641)
  (After-Business Hours): POISON Control Center: 1-800-222-1222

- Determination of the need for identification, monitoring and preventive care for potential contacts will be based on the epidemiology and clinical aspects of the suspected or confirmed communicable disease and its probable mode of transmission.

- The following measures may need to be taken after consultation with the NYC DOHMH regarding the risk of transmission to contacts in the ED/clinic. The Infection Control Practitioner or his/her designee will create a line list of patients and staff who were exposed to the index case prior to the index case being placed in isolation. The line list should include the following information on all contacts: full name, address, telephone contacts (home, work, cell, email) and description of type of contact (e.g., shared waiting room). If the infectious agent involves a vaccine preventable agent (e.g., measles, chickenpox), a column on the line list should include the vaccine status for the agent of concern. (A sample Contact Identification Form for Exposure to Communicable Disease of Urgent Public Health Concern is included in the Appendix.)

- Consistent with your hospital's policy, the number of persons who enter the patient's room should be limited, as well as the traffic in and out. Entry should be limited to necessary hospital staff and public health personnel. Visitors should be excluded from entering the patient's room.

- A log should be kept to track the names and contact information for all persons who enter the room, in the event that follow up is needed.

- Individuals who accompanied the patient to the hospital should be quickly evaluated for signs/symptoms, counseled, asked for contact information, and asked to stay in case further evaluation confirms a communicable disease of urgent public health concern.

- For certain suspected communicable diseases of urgent public health concern, such as smallpox, during the initial consultation with the DOHMH, the DOHMH may request that the hospital detain ED and clinic contacts in the hospital until DOHMH personnel arrive to interview them. A detention order may be issued, if needed, for non-compliant contacts.

- A location in the hospital should be pre-identified that can be used to hold all ED or clinic contacts that are awaiting evaluation by the DOHMH. [NOTE: Please note location in your hospital that may be used to hold ED or clinic contacts of a suspected case of a communicable disease of urgent public health concern pending interview by the DOHMH] Location:

  _____

- Infection Control Personnel or Mental Health personnel should be available to explain the situation to contacts. If possible, patient-appropriate literature on the infectious agent of concern should be made available to all contacts. Fact sheets for most communicable diseases of urgent public health concern are available on the NYC DOHMH or CDC Web sites: NYC DOHMH www.nyc.gov/health CDC www.cdc.gov
- For contacts that refuse to stay, the Infection Control staff should collect information on how to reach the person (including address and home, work and cell phones or beepers). Inform the contact that DOHMH will be getting in contact with them and it is extremely important that they respond.
- The DOHMH may issue a Commissioner's Order that permits the hospital to prevent the contact or suspected contact from leaving as per Section 11.55 of the NYC Health Code. While this is being faxed over to Hospital, it may be necessary for the Hospital to notify hospital security to detain the contact.

TABLE: Communicable Diseases of Urgent Public Health Concern: Diseases with greater likelihood to spread to others, and with higher likelihood of more severe morbidity or mortality (Taken from HICPAC Guideline for Isolation Precautions).

	Potential Pathogens: The organisms listed in this column are not intended to represent the complete, or even most likely, diagnoses, but rather possible etiologic agents that require additional precautions beyond Standard Precautions until they can be ruled out.	**Empiric Precautions:** Infection control professionals should modify or adapt this table according to local conditions.
Rash or Exanthems, generalized, etiology unknown		
Petechial/ecchymotic with fever	*Neisseria meningitidis*	Droplet for first 24 hours of antimicrobial therapy
Vesicular	Varicella, smallpox, or vaccinia virus	Airborne infection isolation plus Contact; Contact if vaccinia
Maculopapular with cough, coryza and fever	Rubeola (measles) virus	Airborne infection isolation
Respiratory Infections		
Cough/fever/upper lobe pulmonary infiltrate in HIV-negative patient or a patient at low risk for HIV	*M. tuberculosis*; SARS	Airborne infection isolation; add Contact plus eye protection if history of SARS exposure; travel
Cough/fever/pulmonary infiltrate in any lung location in an HIV-infected patient or a patient at high risk for HIV infection	*M. tuberculosis*	Airborne infection isolation
Respiratory infections, particularly bronchiolitis and pneumonia, in infants and young children	Influenza virus	Contact plus Droplet; Droplet may be discontinued influenza has been ruled out

JOB ACTION SHEET

(Triage Staff) _____

Responsible Staff: _____

- Read this entire sheet.
- Document the time at which patient is triaged on the patient's ED record.
- Perform Communicable Disease Triage Screen on patients who self-identify as having fever or who have fever on triage exam.
  - Have you had fever (elevated temperatures) in the past two weeks?
  - Have you had cough in the past two weeks?
  - Have you had shortness of breath or difficulty breathing in the past two weeks?
  - Have you had a rash or unusual skin lesions in the past two weeks?

For patients reporting fever and respiratory/rash symptoms:

- Have you traveled outside the United States or had close contact with someone who has recently traveled outside the United States, in the past two weeks? If yes, ask where: _____
- Are you a healthcare worker (e.g., nurse, physician, ancillary services personnel, allied health services personnel, hospital volunteer, or laboratory worker) who has had a recent exposure to an individual with a highly communicable disease or unexplained, severe febrile respiratory or rash disease?
- Do any of the people who you have close contact with at home, work or your friends have the same symptoms?

Based on the responses to these questions, a positive communicable disease triage screen is considered for any patient who meets one of the following two criteria:

(1) Any patient with fever and rash

(2) Any patient with fever and respiratory symptoms who reports any of the following epidemiologic risk factors:

- Travel to an area that is known to be currently experiencing or at risk for a communicable disease outbreak of urgent public health concern (e.g., country currently experiencing an outbreak of avian influenza, country at higher risk for re-emergence of SARS, such as China) [NOTE: Since triage/screening staff may not be aware of which countries are at risk, infection control practitioners (ICPs) should be instructed to consult the DOHMH website for recent health alerts: http://www.nyc.gov/html/doh/ or the CDC website at http://www.cdc.gov/travel/. ICPs may want to check for this information on a daily or weekly basis so that they can update the ED/clinic staff.];

- Contact with someone who is also ill and traveled to an area that is to known to be or is at risk for a communicable disease outbreak of urgent public health concern as outlined above;
- A healthcare worker (e.g., nurse, physician, ancillary services personnel, allied health services personnel, hospital volunteer, or laboratory worker) with a recent exposure to a potential communicable disease of urgent public health concern;
- Anyone who reports being part of a cluster of two or more persons with a similar febrile, respiratory illness (e.g., household, work or social cluster).
- If communicable disease triage screen:

  Positive: Patients with a positive communicable disease triage screen should be given a surgical mask and prioritized for placement in an AIIR or private room pending clinical evaluation. Both patient and triage staff should perform hand hygiene.

  - If communicable disease triage screen positive, notify ED Supervisor _____.
  - Document the positive communicable disease triage screen on the patient's ED record.
  - Bring patient to pre-identified area for separating positive communicable disease triage screen patients to await medical evaluation.
  - Perform hand hygiene after last contact with patient.

  Negative: Note negative communicable disease triage screen on ED form or sheet.

JOB ACTION SHEET

(ED Supervisor) _____

Responsible Staff: _____

- When notified by Triage Staff concerning patient with positive communicable disease triage screen, ensure that appropriate infection control measures have been taken.
  - **Patient placed in AIIR or private isolation room**
  - Document the time that patient was placed in an isolation room, and the type of isolation precautions implemented (e.g, airborne, contact) on the patient's ED record.
  - Signage on door of isolation room.
  - Signage showing proper donning and removing of PPE outside of room.
  - Appropriate PPE placed outside door.
- Identified appropriate ED medical staff to conduct clinical evaluation to determine if patient has a communicable disease of urgent public health concern
- If ED medical staff reports that patient is suspected to have potentially communicable disease of urgent public health concern, then notification to be done by ED Supervisor or designees to:
  - Infectious Disease Consult
  - Infection Control Practitioners
  - Administrator On Duty
  - Nursing Administrator
  - NYC DOHMH
  - If communicable disease of concern has potential for airborne transmission, patient should be moved to an AIIR, if not already in one, and Engineering should be contacted to verify that airflow is negative.

Tracing Collection Form. Contact Identification Form for Exposure to Communicable Diseases of Urgent Public Health Concern

1. SUSPECT CASE information **a. Suspect Case Initials: _____ (IF MORE THAN ONE SUSPECT CASE, USE SEPARATE FORMS)**

b. Date Suspect Case Entered Hospital/Clinic: _____/_____/_____

c. Location(s) in Hospital/Facility of Suspect Case and Time Suspect Case Entered Each Location (best estimate):

Location 1: _____ Time entered: _____ Location 4: _____ Time entered: _____

Location 2: _____ Time entered: _____ Location 5: _____ Time entered: _____

Location 3: _____ Time entered: _____ Location 6: _____ Time entered: _____

2. POTENTIAL CONTACTS information

	Last Name	First Name	Age	Gender	Address (street, apt #, city, borough, state, zip code)	Alt Address (e.g., work)	Home phone/ Cell phone ---------- Email Address	Alternate Phone/Cell (e.g., next of kin)	Type of Exposure to Suspect Case	Duration of Exposure to Suspect Case	If known, vaccine status (note which vaccine preventable illness of concern)
1							----------				
2							----------				
3							----------				
4							----------				
5							----------				
6							----------				
7							----------				
8							----------				
9							----------				
10							----------				
11							----------				
12							----------				

H5N1 Avian Influenza Protocol for On-Call Physicians

Key Steps for Avian Influenza Case Screening

1. Confirm that case meets CURRENT SURVEILLANCE DEFINITION
2. Advise provider on INFECTION CONTROL precautions
3. Advise provider on COLLECTION OF CLINICAL SPECIMENS for diagnostic testing
4. Fill out H5N1 AVIAN INFLUENZA SCREENING FORM
5. Inform Senior MD on call.
6. Arrange specimen transport to Public Health Laboratory for H5N1 testing
7. Report suspected case to Senior MD and Bureau of Communicable Disease (BCD) as soon as possible. If neither the Primary or Senior On Call MD is from BCD, notify as follows:
   - If weeknight: Contact the BCD "Doc of the Week" the following business morning at 212-788-9830. Fax case report form and any other pertinent notes to the Doc of the Week at 212-788-4268 or 212-788-9319
   - If weekend: Call the Poison Control Center and ask for contact information for one of the BCD medical epidemiologists (Listed in the "Bioevent Medical Epidemiologist Response Team Roster" call down list which is kept at PCC)

I. Surveillance Criteria for Avian Influenza A (H5N1) Infection in NYC

Cases must meet the following clinical and epidemiologic criteria to be considered for investigation.

A patient who has an illness that requires **hospitalization** or is **fatal**
AND
Has a documented temperature of ≥38°C (≥100.4°F)
AND
Has radiographically confirmed pneumonia, acute respiratory distress syndrome (ARDS), or other severe respiratory illness for which an alternate diagnosis has not been established
AND has at least **1** of the following potential exposures within 10 days of symptom onset:

(1) History of travel to a country with influenza H5N1 documented in poultry, wild birds, and/or humans,† **AND** had at least **one of the following** potential exposures during travel:

- Direct contact with (e.g., touching) sick or dead domestic poultry
- Direct contact with surfaces contaminated with poultry feces
- Consumption of raw or incompletely cooked poultry or poultry products
- Direct contact with sick or dead wild birds suspected or confirmed to have influenza H5N
- Close contact (approach within 1 meter [approx. 3 feet]) of a person who was hospitalized or died due to a severe unexplained respiratory illness

(2) Close contact (approach within 1 meter [approx. 3 feet]) of an ill patient who was confirmed or suspected to have H5N1;

(3) Worked with live influenza H5N1 virus in a laboratory.

Testing for avian influenza A (H5N1) virus infection should be considered (on a case-by-case basis and in consultation with local and state health departments) for:

(1) A patient with **mild** or **atypical** disease‡ (hospitalized or ambulatory) who has one of the exposures listed above (criteria 1, 2, **or** 3)

(2) A patient with severe or fatal respiratory disease whose epidemiological information is uncertain, unavailable, or otherwise suspicious but does not meet the criteria above**

Providers should be reminded to test for other common respiratory pathogens that may be causing illness in the patient (e.g., human influenza, RSV, etc.).

Providers should be encouraged to admit patients meeting the above criteria to ensure that infection control precautions are enforced and to enhance the ability to monitor the patient's condition. Especially in those cases where avian influenza is strongly suspected (e.g., direct contact with sick or dead birds, a human H5 case, etc.), the patient should be admitted to the hospital until laboratory test results are available to confirm or rule out H5N1 infection.

For highly suspect cases that refuse hospital admission, the DOHMH has the authority to detain patients while awaiting laboratory test results, who are suspected of having a contagious disease that may be disseminated or transmitted from person to person, and may pose an imminent and significant threat to the public health resulting in severe morbidity or high mortality, (Section 11.55 in the NYC Health Code). The DOHMH also has a contract with Bellevue Hospital to maintain an

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† For a listing of influenza H5N1-affected countries, visit the CDC website at: http://www.cdc.gov/flu/avian/outbreaks/current.htm; the OIE website at: http://www.oie.int/eng/en_index.htm; the WHO website at: http://www.who.int/csr/disease/avian_influenza/en/.

‡ **mild** or **atypical** disease ??

** Examples include: a traveler returning from influenza H5N1-affected country† whose exposures are unclear or suspicious, a person who had contact with well-appearing poultry, etc.

Note: CDC is revising its interim guidance for infection control precautions for avian and pandemic influenza. The DOHMH guidance. The DOHMH guidance will be revised once these federal recommendations are released.

isolation area for detained patients, with security measures in place. If detention orders are being considered for an H5N1 suspect case, then BCD and the General Counsel should be notified immediately to provide consultation to facilitate the process and to draft the legal orders.

II. Infection Control Precautions and Guidance for Contacts

Infection control precautions:

- Hospitalized patients meeting the above clinical and epidemiologic criteria should be placed in a separate room away from other patients and cared for using standard and droplet infection control precautions pending further evaluation.
- Persons in contact with the suspect case should wear a surgical or procedure mask. Gloves should be worn if contact with the patient's blood, body fluids, or respiratory secretions is anticipated, and hand hygiene measures should be followed after all patient contact. Gowns are necessary only if soiling of the provider's clothes with patient's blood, body fluids, or respiratory secretions is anticipated.
- Airborne isolation procedures should be used during procedures with the potential to generate aerosols (e.g., intubation or bronchoscopy). Wearing goggles or face shield for routine contact with suspect avian influenza patients is not necessary unless sprays or splatter of infectious material is likely.

Contact management:

- Determine if any close contacts (e.g., household, sexual, etc) have fever and respiratory symptoms. If Yes, screen the contacts for H5N1 risk exposures.
- If contacts report H5N1 risk exposures, treat as a suspect case.
- If no risk exposures, and if not ill enough to be hospitalized based on clinical issues alone, advise that the ill contact stay home and use respiratory hygiene precautions until the case-patient's H5 test result is available.
- Advise hospital to keep a logbook of all hospital personnel and visitors exposed to the suspect case until the H5 test result is available.
- Ask healthcare provider to advise asymptomatic close contacts to notify their health care provider if they develop fever or respiratory symptoms (cough, sore throat, or shortness of breath).

III. Collection and Transport of Clinical Specimens for Patients Who Meet H5N1 Surveillance Criteria

- If the call comes on a Friday or Saturday night, the On-Call physician and/or Senior physician should make arrangements to transport clinical specimens to PHL for diagnostic testing. If the hospital is unable to arrange transportation to PHL, then the Operations Manager should be contacted via the DOHMH Police Desk at 212-788-4990 to request assistance from the DOHMH Police.

- If the call comes Sunday through Thursday nights, have the hospital or healthcare facility store samples in the refrigerator until the following day, when the BCD Doc of the Week will arrange transport. Please obtain reporter's contact information on the Screening Form.

Specimen Collection and Testing Guidelines

The information below is posted on the DOHMH Web site www.nyc.gov/html/doh/html/cd/cd-avianflu.shtml (see Guidelines for Surveillance, IV. Laboratory Testing and Management of Suspected H5N1 Avian Influenza Cases.

IV. Laboratory Testing and Management of Suspected H5N1 Avian Influenza Cases

- Oropharyngeal swabs and lower respiratory tract specimens (e.g., bronchoalveolar lavage or tracheal aspirates) are preferred because they may have the highest yield for influenza H5N1 detection, based on available data. Nasal or nasopharyngeal swabs are acceptable, but may have lower yield.
- Detection of influenza H5N1 is more likely from specimens collected within the first 3 days of illness onset. If possible, serial specimens should be obtained over several days from the same patient.
- Infection control precautions during specimen collection should include the use of gloves, gown, goggles or face shield, and a fit-tested respirator with an N-95 or higher protection rating. Detailed guidance on infection control precautions for health care workers caring for suspected influenza H5N1 patients is available.*
- Swabs used for specimen collection should have a Dacron tip and an aluminum or plastic shaft. Swabs with calcium alginate or cotton tips and wooden shafts are not recommended.** Specimens should be placed at 4°C immediately after collection.
- For reverse-transcriptase polymerase chain reaction (RT-PCR) analysis, nucleic acid extraction lysis buffer can be added to specimens (for virus neutralization and RNA stabilization), after which specimens can be stored and shipped at 4°C. Otherwise, specimens should be frozen at or below -70°C and shipped on dry ice. For viral isolation, specimens can be stored and shipped at 4°C. If specimens are not expected to be inoculated into culture within 2 days, they should be frozen at or below -70°C and shipped on dry ice. Avoid repeated freeze/thaw cycles.
- Influenza H5N1-specific RT-PCR testing conducted under Biosafety Level 2 conditions§ is the preferred method for diagnosis. The NYS DOH Wadsworth Laboratory is able to perform influenza H5N1 RT-PCR testing, and is the recommended sites for initial diagnosis.

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* Interim recommendations for infection control in health-care facilities caring for patients with known or suspected avian influenza are available at: http://www.cdc.gov/flu/avian/professional/infect-control.htm.

** Specimens can be transported in viral transport media, Hanks balanced salt solution, cell culture medium, tryptose-phosphate broth, veal infusion broth, or sucrose-phosphate buffer. Transport media should be supplemented with protein, such as bovine serum albumin or gelatin, to a concentration of 0.5% to 1%.

§ Information regarding Laboratory Biosafety Level Criteria can be found at: http://www.cdc.gov/od/ohs/biosfty/bmbl4/bmbl4s3.htm.

Note: CDC is revising its interim guidance for infection control precautions for avian and pandemic influenza. The DOHMH guidance. The DOHMH guidance will be revised once these federal recommendations are released.

- Viral culture should not be attempted on specimens from patients suspected to have influenza H5N1, unless conducted under Biosafety Level 3 conditions with enhancements.[§]
- Commercial rapid influenza antigen testing in the evaluation of suspected influenza H5N1 cases should be interpreted with caution. Clinicians should be aware that these tests have relatively low sensitivities, and a negative result would not exclude a diagnosis of influenza H5N1. In addition, a positive result does not distinguish between seasonal and avian influenza A viruses.
- Although not optimal, serologic testing for influenza H5N1-specific antibody using appropriately timed specimens can be considered, if other influenza H5N1 diagnostic testing methods are unsuccessful (for example, due to delays in respiratory specimen collection). Paired serum specimens from the same patient are required for influenza H5N1 diagnosis: one sample within the first week of illness and a second sample 2-4 weeks later, demonstrating a rise in H5N1-specific antibody levels. Currently, the microneutralization assay, which requires live virus, is the recommended test for measuring H5N1-specific antibody. Any work with live wild-type highly pathogenic influenza H5N1 viruses must be conducted in a USDA-approved Biosafety Level 3 containment facility.
- In cases of death associated with possible avian influenza infection, contact the Senior MD on call to facilitate working with BCD personnel and Office of the Chief Medical Examiner (OCME) to obtain an autopsy and collection of appropriate post-mortem specimens.

V. H5N1 Avian Influenza Investigation Form

Please collect **demographic, clinical, and epidemiologic** information using the H5N1 Avian Influenza Investigation Form (attached). Fax the completed form to the BCD Doc of the Week the following business day (212-788-4268 or 212-788-9319).

H5N1 Avian Influenza Case Investigation Form

New York City Department of Health and Mental Hygiene
Bureau of Communicable Disease

Directions:

1. Form will be used by Bureau of Communicable Disease (BCD) medical epidemiologists or NYC DOHMH on-call physicians when triaging calls from medical providers regarding potential H5N1 avian influenza infection. When this form is used by on-call physicians, the circumstances must be reviewed with Senior on-call physician. If neither the Primary nor Senior on-call physician is from BCD, a BCD medical epidemiologist can be reached for consultation by calling the Poison Control Center to request contact information from the Bioevent Medical Epidemiologist Response Team (BMERT) Roster.
2. If a patient meets the current case definition for suspected H5N1 avian influenza infection, refer

to infection control and specimen collection sections in BCD document, "*Avian Influenza for On-Call Docs*."

3. For *hospitalized patients*, depending on severity of illness, note that screening data will be recorded in either Section 1 or in Section 2.

4. Procedure for reporting suspected H5N1 avian influenza case-patients to BCD:

   a. *Business hours*: Call 212-788-9830, and request to speak to the BCD Doc of the Week.

REPORT DATE	MM	DD	YY	Name of person filling out this form:	REPORT TIME	__ :___ am/pm
BCD ID #				CDC ID#		

REPORTER INFORMATION	Last Name:	First Name:	
Medical specialty of reporter (ID, ICN, ED, etc.):		Borough/City	
Hospital or Clinic Name:			
Street address		State	ZIP
Phone: ( )	Pager: ( )	Other: ( )	

CLINICIAN CONTACT INFO			
Primary Clinical Contact (if different from Reporter)	Last Name:	First Name:	
Medical specialty (ID, ICN, ED, etc.):			
Hospital or Clinic (include address):			
Phone: ( )	Pager: ( )	Other: ( )	Notes:
Clinician 2	Last Name:	First Name:	
Medical specialty (ID, ICN, ED, etc.):			
Hospital or Clinic (include address):			
Phone: ( )	Pager: ( )	Other: ( )	Notes:
Clinician 3	Last Name:	First Name:	
Medical specialty (ID, ICN, ED, etc.):			
Hospital or Clinic (include address):			
Phone: ( )	Pager: ( )	Other: ( )	Notes:

PATIENT CONTACT & DEMOGRAPHIC INFORMATION	Last Name:	First Name:	
NYC Street address		Borough	ZIP
non-NYC street address (if non-NYC resident)	City	State/Country	ZIP
Phone #s: Home ( )	Cell ( )	Other ( )	
Sex: male / female / unknown	Date of Birth MM DD YY	Age: days / months / years	If translator needed, language:
Race: White Black or African American Asian Native Hawaiian /other Pacific Islander American Indian/Alaskan Native Unknown Other:		Ethnicity: Hispanic Non-Hispanic Unknown	
Occupation:			

SCREENING INFORMATION	Date of symptom onset MM DD YY	
SECTION 1. **HOSPITALIZED PATIENTS**		
1a. Does patient have unexplained, radiographically confirmed pneumonia, acute respiratory distress syndrome (ARDS), or other severe respiratory illness for which an alternative diagnosis has not been established?		**Yes No** **If Yes, proceed to 1b.** **If No, proceed to SECTION 2.**
1b. **Within 10 days of symptom onset**, did patient travel to a country with documented H5N1 avian influenza in poultry and/or humans (currently including parts of Asia, Africa and Europe: see http://www.oie.int and http://disasters.jrc.it/AvianFlu/Europe/)?		**Yes No** **If Yes, proceed to 1c.** **If No, patient does not meet current case definition for suspected H5N1 infection.**
1c. Within 10 days of symptom onset, did patient have direct contact with domestic poultry (e.g., touch sick or dead chickens or ducks or well-appearing ducks)?		**Yes No** **If Yes, follow infection control and specimen collection procedures in ìAvia n Influenza for On-Call Docsî.** **If No, proceed to 1d.**
1d. Within 10 days of symptom onset, did patient consume uncooked poultry or poultry products?		**Yes No** **If Yes, follow infection control and specimen collection procedures in ìAvia n Influenza for On-Call Docsî.** **If No, proceed to 1e.**
1e. Within 10 days of symptom onset, did patient come into direct contact with poultry feces or with surfaces contaminated with poultry feces?		**Yes No** **If Yes, follow infection control and specimen collection procedures in ìAvia n Influenza for On-Call Docsî.** **If No, proceed to 1f.**

1e. Within 10 days of symptom onset, did patient come into close contact (within 1 meter) of a known or suspected human case of H5N1?	**Yes No** **If Yes, follow infection control and specimen collection procedures in ìAvia n Influenza for On-Call Docsî.** **If No, patient does not meet current case definition for suspected H5N1 infection.**
SECTION 2. **HOSPITALIZED OR AMBULATORY**	
2a. Has patient had documented temperature of >38C (>100.4F) **AND** at least one of the following respiratory symptoms: cough, sore throat, or shortness of breath (dyspnea)?	**Yes No** **If Yes, proceed to 2b.** **If No, patient does not meet current case definition for suspected H5N1 infection.**
2b. **Within 10 days of symptom onset**, did patient travel to a country with documented H5N1 avian influenza in poultry and/or humans (currently including parts of Asia, Africa and Europe: see http://www.oie.int and http://disasters.jrc.it/AvianFlu/Europe/)?	**Yes No** **If Yes, proceed to 2c.** **If No, patient does not meet current case definition for suspected H5N1 infection.**
2c. Within 10 days of symptom onset, did patient have direct contact with domestic poultry (e.g., touch sick or dead chickens or ducks or well-appearing ducks)?	**Yes No** **If Yes, contact senior physician to discuss case. If patient is determined to meet screening criteria, follow infection control and specimen collection procedures in ìAvian Influenza for On-Call Docsî.** **If No, proceed to 2d.**
2d. Within 10 days of symptom onset, did patient consume uncooked poultry or poultry products?	**Yes No** **If Yes, contact senior physician to discuss case. If patient is determined to meet screening criteria, follow infection control and specimen collection procedures in ìAvian Influenza for On-Call Docsî.** **If No, proceed to 2e.**
2e. Within 10 days of symptom onset, did patient come into direct contact with poultry feces or with surfaces contaminated with poultry feces?	**Yes No** **If Yes, contact senior physician to discuss case. If patient is determined to meet screening criteria, follow infection control and specimen collection procedures in ìAvian Influenza for On-Call Docsî.** **If No, proceed to 2f.**
2f. Within 10 days of symptom onset, did patient come into close contact (within 1 meter) of a known or suspected human case of H5N1?	**Yes No** **If Yes, contact senior physician to discuss case. If patient is determined to meet screening criteria, follow infection control and specimen collection procedures in ìAvian Influenza for On-Call Docsî.** **If No, patient does not meet current case definition for suspected H5N1 infection.**

If patient does NOT meet clinical and epidemiologic screening criteria, STOP HERE.

If patient DOES meet screening criteria, please fill out the rest of the form below.

In either case, please fax form to BCD following business day (212-788-4268 or 212-788-9319) ATTN: Doc of the Week.

HOSPITAL / CLINIC INFORMATION	Admitted? Yes No Unknown				Medical Record #		
Hospital name:					Borough/city	State	
Date of Hospitalization	MM	DD	YY	Date of Discharge	MM	DD	YY
Ever admitted to ICU?	Yes No Unknown			**Ever** on ventilator?	Yes No Unknown		
If not hospitalized, name of clinic:							
Clinic Address:							
Date seen in clinic:	MM	DD	YY				
Was patient seen at **any other hospital or clinic** after 1st symptom onset?	Yes No Unknown						
If yes: List below **ALL other** hospitals/clinics where patient was seen/treated **after** symptom onset. Include dates of treatment or admit/discharge and the units/wards where patient was treated.							
Facility name:					Borough/city	State	
Street address:					Phone:		
Date(s) of treatment:				Unit(s):			
Facility name:					Borough/city	State	
Street address:					Phone:		
Date(s) of treatment:				Ward(s):			

CLINICAL INFORMATION				
Measured fever ≥ 38 C or 100.4 F Subjective fever only	Date of fever onset :	MM	DD	YY
Date of first symptom onset, if not fever		MM	DD	YY
Cough: Yes No Unknown		Shortness of breath: Yes No Unknown		
Sore throat Yes No Unknown		Headache Yes No Unknown		
Diarrhea: Yes No Unknown		Neurological symptoms**:** Yes No Unknown		
Conjunctivitis Yes No Unknown				
Other significant symptoms:				
Clinical course to date / other clinical details (include **past medical history**):				

Did patient die?	Yes No Unknown	Date of Death:	MM	DD	YY	Autopsy performed?	Yes No Unknown	**If yes,** where:
If autopsy perfomed:	Pathologist:							
	Phone Number: ( )							
Was pathology consistent with pneumonia or ARDS?	Yes No Unknown	Was case referred to Office of Chief Medical Examiner?	Yes No Unknown					
Alternative diagnosis suggested by autopsy/clinical information?	Yes No Unknown	***If yes,*** give details:						

INFLUENZA TESTING PERFORMED AT HOSPITAL/MEDICAL FACILITY						
Specimen 1	Collection Date	MM	DD	YY	Collection Time	__ :___ am/pm
Specimen Type:	NP swab OP swab NP aspirate bronchoalveolar lavage specimen other _____ Tissue					
Test Type:	RT-PCR Rapid Ag Test Direct Fluorescent Ab Viral Culture Other (Specify if other test) _____					
Result:	Influenza A (H5) Influenza A (NOT H5) Influenza A (non-typed) Influenza B Other _____ Negative					
Notes regarding hospital /medical facility influenza testing						

OTHER DIAGNOSTIC TESTING

Continued.

Test type	Collection Date	Result	
Blood culture (#1):	MM DD YY	☐ pos ☐ indeterm ☐ neg ☐ not done	*If pos*, describe:
Blood culture (#2):	MM DD YY	☐ pos ☐ indeterm ☐ neg ☐ not done	*If pos*, describe:
Sputum gram stain/culture:	MM DD YY	☐ pos ☐ indeterm ☐ neg ☐ not done	*If pos*, describe:
Respiratory Syncytial Virus :	MM DD YY	☐ pos ☐ indeterm ☐ neg ☐ not done	*If pos*, describe: (which RSV test performed?)
Other viral culture:	MM DD YY	Describe:	
Other microbiological testing:	Describe:		

CBC Note 1)initial and 2) lowest WBC count /platelet count	1	MM	DD	YY	WBC	%P	%L	%M	%E	Hbg	Hct	Plts
	2	MM	DD	YY	WBC	%P	%L	%M	%E	Hbg	Hct	Plts

CPK, LDH, creatinine and LFTís (note most abnormal value)	MM	DD	YY	LDH	MM	DD	YY	CPK	MM	DD	YY	Cr.	
	MM	DD	YY	TBili	AlkP	AST	ALT						

Initial chest x-ray (CXR):	MM DD YY	☐ Normal ☐ Abnormal ☐ Not done ☐ Unknown	*If abnormal*: ☐ Chronic changes ☐ Lobar consolidation ☐ ARDS ☐ Interstitial infiltrate ☐ Pleural effusion ☐ Other Details:		
Other radiographic studies (including subsequent CXRs):	MM DD YY	Type:	Result:		
	MM DD YY	Type:	Result:		

Additional diagnostic tests:

Test Type:	☐ RT-PCR ☐Rapid Ag Test ☐ Direct Fluorescent Ab ☐ Viral Culture ☐ Other (Specify if other test) _____
Result:	☐ Influenza A (H5) ☐ Influenza A (NOT H5) ☐ Influenza A (non-typed) ☐ Influenza B ☐ Other _____ ☐ Negative
Notes regarding hospital /medical facility influenza testing	

EPIDEMIOLOGIC INFORMATION

Travel History	List **all** areas outside United States in which patient traveled in 10 days prior to symptom onset:

Country:	City/Province:	From:	MM	DD	YY	To:	MM	DD	YY
Country:	City/Province:	From:	MM	DD	YY	To:	MM	DD	YY
Country:	City/Province:	From:	MM	DD	YY	To:	MM	DD	YY
Country:	City/Province:	From:	MM	DD	YY	To:	MM	DD	YY
Country:	City/Province:	From:	MM	DD	YY	To:	MM	DD	YY

Risk Factors		
In the 10 days prior to symptom onset, did the patient:		
Come within 3 feet of any live or dead poultry (e.g., visited poultry farm, backyard flock, bird market, etc.)?	Yes No Unknown	Notes:
Touch any recently butchered poultry?	Yes No Unknown	Notes:
Touch the excretions of any live or dead poultry?	Yes No Unknown	Notes:
Visit or stay in the same household with a confirmed human H5 case?	Yes No Unknown	Notes:
Visit or stay in the same household with anyone with suspected human H5 influenza?	Yes No Unknown	Notes:
Visit or stay in the same household with anyone with pneumonia or severe influenza-like illness?	Yes No Unknown	Notes:

SYMPTOMATIC CLOSE CONTACTS EXPOSED TO CASE	List any close contacts of case who currently have similar symptoms**:**			
BCD ID #	CDC ID#	Last:	First:	Translator? Yes No Language:
Address			Phone	Home ( ) Cell ( )

Nature of contact: ☐ Household, relation: ☐ Shared same vehicle (check one): ☐ car ☐ bus ☐ train ☐ aircraft ☐ other: ☐ Healthcare ☐ Work ☐ Sexual ☐ School ☐ Other, describe:	Dates of contact:

Date of onset:	MM	DD	YY	Symptoms: ☐ Fever >38C (100.4F) ☐ Cough ☐ Sore throat ☐ Shortness of breath

Travel History:	List **all** areas outside United States in which symptomatic contact traveled in 10 days prior to symptom onset:

Country:	City/Province:	From:	MM	DD	YY	To:	MM	DD	YY
Country:	City/Province:	From:	MM	DD	YY	To:	MM	DD	YY
Country:	City/Province:	From:	MM	DD	YY	To:	MM	DD	YY
Country:	City/Province:	From:	MM	DD	YY	To:	MM	DD	YY
Country:	City/Province:	From:	MM	DD	YY	To:	MM	DD	YY

Contact with live or dead domesticated poultry or their excretions (e.g., visited a poultry farm, bird market, etc.)?
☐ Yes ☐ No

Notes:

BCD ID #	CDC ID#	Last:	First:	Translator? ☐ Yes ☐ No Language:

Address	Phone	Home ( )
		Cell ( )

Nature of contact: ☐ Household, relation: ☐ Shared same vehicle: ☐ car ☐ bus ☐ train ☐ aircraft ☐ other: ☐ Healthcare ☐ Work ☐ Sexual ☐ School ☐ Other, describe:	Dates of contact:

Date of onset:	MM	DD	YY	Symptoms: ☐ Fever >38C (100.4F) ☐ Cough ☐ Sore throat ☐ Shortness of breath

Travel History:	List **all** areas outside United States in which symptomatic contact traveled in 10 days prior to symptom onset:

Country:	City/Province:	From:	MM	DD	YY	To:	MM	DD	YY
Country:	City/Province:	From:	MM	DD	YY	To:	MM	DD	YY

Country:	City/Province:	From:	MM	DD	YY	To:	MM	DD	YY
Country:	City/Province:	From:	MM	DD	YY	To:	MM	DD	YY
Country:	City/Province:	From:	MM	DD	YY	To:	MM	DD	YY

Contact with live or dead domesticated poultry or their excretions (e.g., visited a poultry farm, bird market, etc.)?
☐ Yes ☐ No

Notes:

BCD ID #	CDC ID#	Last:	First:	Translator? ☐ Yes ☐ No Language:

Address	Phone	Home ( )
		Cell ( )

Nature of contact:
☐ Household, relation:
☐ Shared same vehicle: ☐ car ☐ bus ☐ train ☐ aircraft ☐ other:
☐ Healthcare ☐ Work ☐ Sexual ☐ School
☐ Other, describe:

Dates of contact:

Date of onset:	MM	DD	YY

Symptoms:
☐ Fever >38C (100.4F) ☐ Cough ☐ Sore throat
☐ Shortness of breath

Travel History:

List **all** areas outside United States in which symptomatic contact traveled in 10 days prior to symptom onset:

Country:	City/Province:	From:	MM	DD	YY	To:	MM	DD	YY
Country:	City/Province:	From:	MM	DD	YY	To:	MM	DD	YY
Country:	City/Province:	From:	MM	DD	YY	To:	MM	DD	YY
Country:	City/Province:	From:	MM	DD	YY	To:	MM	DD	YY
Country:	City/Province:	From:	MM	DD	YY	To:	MM	DD	YY

Contact with live or dead domesticated poultry or their excretions (e.g., visited a poultry farm, bird market, etc.)?
☐ Yes ☐ No

Notes:

ASYMPTOMATIC CLOSE CONTACTS EXPOSED TO CASE	**If laboratory testing shows that patient is positive for infection with H5N1,** list all persons who had close contact (within 3 feet of case) **starting 24 hours before** symptom onset of the index case:

BCD ID#	CDC ID #	Last:	First:	Translator? Yes No Language:
Address			Phone	Home ( )
				Cell ( )
Nature of contact: Household, relation: Shared same vehicle: car bus train aircraft other: Healthcare Work Sexual School Other, describe:				Dates of contact:
Notes:				

BCD ID#	CDC ID #	Last:	First:	Translator? Yes No Language:
Address			Phone	Home ( )
				Cell ( )
Nature of contact: Household, relation: Shared same vehicle: car bus train aircraft other: Healthcare Work Sexual School Other, describe:				Dates of contact:
Notes:				

BCD ID#	CDC ID #	Last:	First:	Translator? Yes No Language:
Address			Phone	Home ( )
				Cell ( )
Nature of contact: Household, relation: Shared same vehicle: car bus train aircraft other: Healthcare Work Sexual School Other, describe:				Dates of contact:
Notes:				

BCD ID#	CDC ID #	Last:	First:	Translator? Yes No Language:
Address			Phone	Home ( )

		Cell ( )
Nature of contact: ☐ Household, relation: ☐ Shared same vehicle: ☐ car ☐ bus ☐ train ☐ aircraft ☐ other: ☐ Healthcare ☐ Work ☐ Sexual ☐ School ☐ Other, describe:		Dates of contact:
Notes:		

BCD ID#	CDC ID #	Last:	First:	Translator? ☐ Yes ☐ No Language:
Address			Phone	Home ( ) Cell ( )
Nature of contact: ☐ Household, relation: ☐ Shared same vehicle: ☐ car ☐ bus ☐ train ☐ aircraft ☐ other: ☐ Healthcare ☐ Work ☐ Sexual ☐ School ☐ Other, describe:				Dates of contact:
Notes:				

CASE STATUS				
Clinical Case (laboratory results pending)	As of (date):	MM	DD	YY
Influenza A positive (subtype pending)	As of (date):	MM	DD	YY
Confirmed H5N1 Case	As of (date):	MM	DD	YY
Confirmed H3N2 Case	As of (date):	MM	DD	YY
Confirmed H1N1 Case	As of (date):	MM	DD	YY
Ruled Out as H5N1	As of (date):	MM	DD	YY
Non-influenza diagnosis?:		As of (date):	MM	DD	YY

Please fax form to BCD at 212-788-4268 or 212-788-9319.
ATTN: Doc of the Week.

07.06

Avian and Non-Human Animal Surveillance for Highly Pathogenic Avian Influenza

Table of Contents

Summary	81
Background	
Avian Influenza (A1) Viruses	82
Human Avian Influenza H5N1 Infections	83
Current Surveillance for AI in New York State	
Migratory Birds	84
Imported Birds	85
Domestic Poultry	86
Captive Birds	87
Mammals	87
Wild Birds	88
Laboratory Diagnosis for Non-Human Animal Infection	89
Response to the Discovery of (HPA1) H5N1 Avian Influenza in the United States	89
Activities by Pandemic Period	
Interpandemic and Pandemic Alert Periods	90
Pandemic Period	92
Other Resources	92

Summary

The high pathogenicity H5N1 form of avian influenza (HPAI H5N1) that originated in Hong Kong in 1997 has spread dramatically among domestic poultry and wild birds in Asia, especially since 2003, and more recently in the Middle East, Africa and Europe. Although there have been over 200 human cases, it is primarily a disease of birds. As of May 2006, the virus is not known to have mutated to a form which is easily transmissible from person to person. If such a mutation were to occur, a pandemic could arise, since this is a novel strain for the human population, with virtually no immunity present among humans across the globe.

To date, HPAI H5N1 has not been detected in the western hemisphere. While it continues to be a disease of birds, birds are the most like route of introduction of the virus to North America. The most likely route is considered to be via southward movement of migratory birds from Alaska. The detection of HPAI H5N1 in the United States in birds would not indicate the arrival of a pandemic, but most likely the extension of the ongoing avian outbreak to this region of the world. The risk to humans in the US is unknown, but would likely be low, and if the transmissibility of the virus was

similar to what has been seen with the strains currently circulating in other parts of the world, risk would be limited to those with direct contact with infected wild birds or domestic poultry.

Planning for surveillance to detect the introduction of HPAI H5N1 in birds, and response is currently underway. The primary concerns for the United States would be the possible introduction of the virus into domestic poultry populations, and the resultant economic impact, as well as the need to protect human health by minimizing exposure to the virus should this occur. The lead agencies responsible for developing surveillance and response plans include the United States Department of Agriculture (USDA), state agriculture agencies and wildlife agencies. In New York City, the regional USDA office, the New York State Department of Agriculture and Markets (DAM) and the New York State Department of Environmental Conservation (DEC) have oversight, and the DOHMH is coordinating efforts with these agencies.

The following activities are necessary in preparing for and responding to the arrival of HPAI H5N1: 1) Surveillance (efforts to detect the introduction of the virus in birds or other species, and then continue to track its spread once it arrives), 2) Rapid laboratory diagnosis, 3) Interagency coordination to respond to outbreaks in poultry, 4) Measures to improve biosecurity (protecting poultry from exposure to AI), 5) Measures to protect workers and others who might come into close contact with infected birds, 6) Public education regarding potential risks associated with avian or animal contact, and how to prevent exposure to AI, and 7) environmental assessment and decontamination if necessary.

In New York City, the risk of transmission of the current strain of the virus to the public from birds is expected to be limited. At highest risk would be personnel working in our domestic poultry industry or others with direct contact with infected poultry. Risk to the general public would likely be fairly low, given the minimal or absent contact with infected poultry and limited direct interaction with wild birds (see Section 2b for information on risk factors for human infection with avian influenza H5N1).

Background

Avian Influenza Viruses

Avian Influenza (AI) type A viruses have been found in over 40 species of wild and domestic birds and avian cases occur every year throughout the world. AI is actually a family of influenza viruses including many different strains; these are classified as either low or high pathogenicity, based upon severity of disease, as well as genetic sequence and viral effects in cell culture. The virus is shed in the fecal droppings, saliva and nasal discharges of some infected avian wildlife species, and infected domestic poultry. Contaminated water is a common source of infection for birds. Low pathogenicity AI occurs periodically in the U.S. including in New York City and other areas of New York State. Information about AI worldwide is available from the Office of International Epizootics at www.oie.int or the World Health Organization at www.who.int/csr/disease/avian_influenza/avian_faqs/en/index.html . Additional AI information from a public health perspective is available from the Centers for Disease Control and Prevention (CDC) at www.cdc.gov/flu/avian/.

Among the many subtypes of type A avian influenza that have been identified, the H5 and H7 subtypes are associated with strains of Highly Pathogenic Avian Influenza (HPAI). HPAI usually results in high morbidity/mortality in birds and is considered primarily to be a disease of domestic poultry. The United States Department of Agriculture (USDA), in conjunction with the New York State Department of Agriculture and Markets (NYSDAM), has been designated the lead agency for non-human disease surveillance and control, if and when HPAI is detected in New York State.

Most recently, the emergence of HPAI H5N1 among birds in Asia, and its spread to Europe, Africa and the Middle East, has caused a great deal of concern. To date, this virus has not been identified in the Western hemisphere. Along with large outbreaks among domestic poultry, multiple free-ranging wild bird species in Asia, the Middle East, Africa and Europe have been shown to have clinical disease associated with naturally acquired HPAI H5N1 infection. Additional information on which species have been reported is available from the National Wildlife Health Center at www.nwhc.usgs.gov/research/avian_influenza/avian_influenza.html.

The respective roles of migratory birds and domestic poultry in the spread of HPAI H5N1 are not clear and this question is actively debated, but both are likely to play a role in the movement and persistence of the virus.

Typically, waterfowl are reservoirs of low pathogenic strains of AI (LPAI). LPAI strains do not cause severe morbidity or mortality in waterfowl, and as such, waterfowl can act as silent reservoirs and due to migration can transport the virus over relatively large distances. LPAI, if introduced into domestic poultry, can mutate to HPAI strains. Only H5 and H7 strains are known to mutate from LPAI to HPAI. Historically, HPAI strains do not then circulate back to waterfowl. The exception appears to be HPAI H5N1. HPAI strains cause severe morbidity and mortality in domestic poultry, and recent research done in 2004 suggests that the HPAI H5N1 virus has been found in waterfowl and causes high mortality[1].

However, additional studies done on domestic ducks confirm that they can develop asymptomatic infections while shedding large quantities of H5N1 thereby acting as silent reservoirs of the virus[2]. Extensive surveillance and more research need to occur before the role of migratory birds and domestic poultry in the maintenance and movement of H5N1 can be better understood.

Human Avian Influenza H5N1 Infections

Over 200 human cases of H5N1, including over 100 deaths, have occurred in Asia, Europe, the Middle East and Africa, as of the date of publication of this plan. The overwhelming majority of human cases of HPAI H5N1 have resulted from direct exposure to infected poultry, with a few exceptions. Human to human transmission likely occurred in Thailand in 2004. A family cluster has been described, in which an 11 year old girl from Kamphaeng Phet province became ill on September 2, 2004 and died of pneumonia. She was not tested for H5N1 infection, but was considered to be a probable H5N1 fatality after having had contact with sick poultry. Her 26 year-old mother lived in Bangkok but visited her daughter to care for her while she was ill. The mother, who was not known to have any contact with sick poultry, became ill on September 11 2004 and

[1] Chen H. et al. The evolution of H5N1 influenza viruses in ducks in southern China. Proc Natl Acad Sci USA 2004; 101: 1045-57.
[2] http://www.who.int/csr/don/2004_10_29/en/index.html.

died, and H5N1 infection was confirmed. The girl lived with her 32 year-old aunt, who became ill on September 16 2004 and recovered. H5N1 infection was confirmed in the aunt. The aunt's son also became ill with a respiratory infection. This cluster is considered one of the most convincing cases of human-to-human transmission of H5N1 because the mother lived in Bangkok, which had no infected birds, and was likely exposed to H5N1 by her daughter.

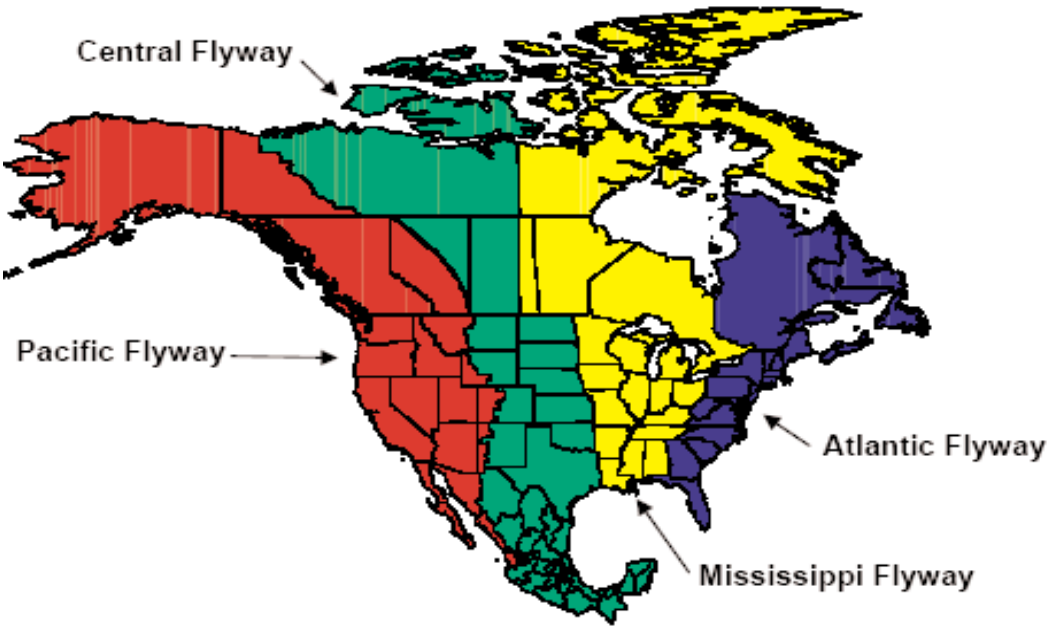
Additionally, there is speculation that contact with wild birds may have been responsible for a cluster of human cases in Azerbaijan. Six cases lived in the same small settlement of Saylan Rayon in south eastern Azerbaijan. A field investigation conducted by the WHO and the Azeri Ministry of Health discovered unburied swan carcasses and suspect that the six victims became infected while collecting swan feathers, a common practice in the community.

Current Surveillance systems for AI in New York City, New York State and other Regions of the United States

Migratory Birds - United States Department of Agriculture (USDA) and the United States Geologic Survey (USGS)

USDA has enhanced the existing early detection system for HPAI in wild, migratory birds. The existing system is based primarily in Alaska, as Alaska is the most likely area of potential introduction of non-domestic strains of avian influenza virus because of the overlapping of migratory birds from the North America, Europe and Asia/Pacific flyways. Additionally, there is almost no natural movement of wild birds between Europe and North America. According to the US Interagency Strategic Plan (see http://www.pandemicflu.gov/issues/screening.html) the contribution of Eurasian AI viruses to the genetic composition of viruses in North American migratory birds has already been

. North American Migratory Bird Flyways



demonstrated. Around April of each year, migratory birds from Asia return to breeding grounds in Alaska, where they can mingle with birds from North America.

The USDA collects samples from migratory birds each spring in Alaska. Since the Hong Kong outbreak of HPAI H5N1 in 1997, over 12,000 migratory water birds from Alaska have been tested for AI. An expansion of the existing surveillance system, which started in the spring of 2006, incorporates the four major flyways in the lower 48 states, as birds fly north and south along those flyways. They include the Pacific, Central, Mississippi and Atlantic flyways. The vast majority of birds will fly southward along the Pacific flyway, and a smaller number along the Central flyway. New York falls within the Atlantic flyway, the flyway least likely to encounter birds from Alaska (see Figure.1) If any birds from Alaska do reach the Atlantic flyway, the species of primary concern for the capacity to introduce HPAI H5N1 include the Tundra Swan and the Greater Scaup. Bird species of lesser importance include the Horned Grebe, Lesser Scaup, Canvasback, Long-tailed Duck, Western Sandpiper, Greater Yellow-legs and the Black-bellied Plover. USDA notes that there are limited options for the control or management of AI in wildlife once the virus is detected. More important is the focus on improving biosecurity on poultry farms and human surveillance and prevention measures.

Five additional surveillance systems have been proposed by USDA that can be implemented at the state or local level and upon the discretion of state and local agencies to improve early detection, depending on species and location. These include:

- Detection and investigation of avian morbidity/mortality reports done at the local and state level in Alaska and the lower 48 states.
- Continued support of active research on avian influenza using live birds in university settings including enhancement of active surveillance studies being conducted by the United States Geological Survey, the Southeastern Poultry Lab in Athens, GA, the University of Alaska at Fairbanks, and Ohio State.
- Hunter harvest surveillance. A proportion of birds shot or caught by hunters would be sampled at check stations during the season in selected areas.
- Sentinel bird testing for avian influenza. Some examples might include requiring any birds entering a state fair be tested for AI; a capture, test and release system focusing on wild birds; establishing sentinel duck flocks in wetland environments (similar to sentinel chicken flocks to monitor West Nile virus); or sampling of backyard poultry flocks.
- Environmental sampling; collection of fresh bird feces and/or water samples from areas where birds congregate.

Imported Birds - USDA

Currently, birds and bird products from countries affected by highly pathogenic avian influenza (HPAI) H5N1 have been banned from the United States. Should an HPAI outbreak of another subtype occur, similar actions would be taken to prevent importation of birds into the United States from affected countries. All birds entering through legal means from non-affected countries, or

confiscated smuggled birds protected under Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES), must enter a USDA operated quarantine station for a 30-day period. In New York, the facility is located in the city of Newburgh.

During quarantine, all birds are swabbed for Newcastle's Disease and avian influenza at specified times. Swabs are done upon arrival for pet birds. Commercial birds (poultry, ducks and other waterfowl, etc.) are swabbed 7 days after arrival. Testing is done using virus isolation and is performed at the National Veterinary Services Laboratory (NVSL) in Ames, IA. In the event paperwork issues or other problems cause a bird to be held at the quarantine station longer (typically an additional 15 days), the bird will be tested again during the second holding period. Any bird testing positive for AI is euthanized and appropriately disposed of. (For more information on importation requirements, contact the USDA-Animal and Plant Health Inspection Service, Veterinary Services New York office at 518-869-9007.)

The federal Department of Homeland Security, Customs and Border Protection, Department of Interior, U.S. Fish and Wildlife Service and the U.S. Department of Agriculture jointly handle the investigation and control of illegally imported or smuggled animals and animal products. Based on known patterns for smuggling, agents will inspect for smuggled birds or poultry products. If any birds are found, they may be tested at the NVSL for AI and other foreign animal. Illegally imported poultry products are either returned to the country of origin, or destroyed according to APHIS policy.

Birds not protected under CITES, are usually euthanized. Currently, the USDA protocol does not require that birds originating from HPAI H5N1 affected countries that are euthanized be tested for AI. Following a recent experience with finches smuggled into JFK airport from Vietnam, USDA indicated that they may update their protocol to include testing of such birds for AI for public health reasons.

Domestic Poultry: USDA and New York State Department of Agriculture and Markets (NYSDAM)

Since 1998, the New York State Department of Agriculture and Markets (NYSDAM) in collaboration with the USDA have conducted ongoing surveillance for avian influenza among domestic poultry, especially within the live bird market system in the New York City area. There are approximately 90 live bird markets in the City, with one or more in each of the five boroughs. Since 1998, NYSDAM tests regularly for the presence of avian influenza viruses in the markets as well as on commercial and backyard poultry farms in other areas of New York. NYSDAM also requires that every flock of birds destined for the live bird marketing system be tested and found negative for avian influenza before these birds are allowed to be moved into the markets. As of last year, the NYSDAM has begun sampling delivery trucks that transport poultry to the live markets. Poultry in the markets originate from all over the eastern seaboard and as far west as Indiana. Inspectors visit the markets for periodic checks of sanitation and sampling inspections and continue to monitor for the presence of ill birds. Occasionally, low pathogenic strains of avian influenza are identified. When this happens, all birds are removed, and the market is thoroughly disinfected and must test negative on environmental sampling before new birds can be brought onto the premises.

Testing is conducted by the New York State Veterinary Diagnostic Laboratory (NYSVDL) at Cornell University's Animal Health Diagnostic Center. All isolates of avian influenza from this system are characterized and the viruses are typed. Aggregate live bird market avian influenza surveillance data are shared with the New York City Department of Health and Mental Hygiene (DOHMH). In 2004, over 10,000 birds were tested without finding any evidence of a HPAI virus of any type in this marketing system. In 2005 even more birds have been tested with no evidence of any HPAI virus. For more information visit the NYSDAM website at:
http://www.agmkt.state.ny.us/AI/AvianFlu.html.

Surveillance in Captive (Zoologic or Privately Owned) Birds

Captive wild birds have been affected by avian influenza. Most notably, an outbreak of HPAI H5N1 occurred at a zoo in Thailand during the 1990's. This is the only reported outbreak in captive wild birds to date. Affected species included raptors (Grey-headed fish eagle, Serpent eagle, Hawk eagle, Spotted wood owl, Brown fish owl, Spot-bellied eagle owl, and Buffy fish owl), songbirds (Scaly-breasted munia and Black drongo) and Grey heron. H5N1 was also confirmed in at least one pet psittacine bird (parrot) during quarantine in the United Kingdom.

American Zoo and Aquarium Association (AZA) zoologic institutions, including zoos in New York City, conduct veterinary and pathologic assessment of all animal deaths on their premises, including diagnostic testing for avian influenza viruses when indicated. Zoos in the European Union have been given permission to vaccinate susceptible birds should the HPAI H5N1 virus appear in their jurisdiction. Zoos in the United States have developed a comprehensive prevention and response plan. Currently the USDA does not permit vaccination against AI for zoo birds, but this policy is under review and may change.

Mammals

To date, information about H5N1 infection in mammals is limited to feline species, swine, and an individual stone marten, although a sero-survey conducted in Thailand indicates that dogs can seroconvert without evidence of illness. There have been two outbreaks of HPAI H5N1 strain in felids housed in zoos in Thailand and a few cases in felids at a national park in Vietnam. During December 2003, two tigers (*Panthera tigris*) and two leopards (*Panthera pardus*) showed clinical signs of a respiratory disease and died unexpectedly. Virus isolation and RT-PCR confirmed the presence of the H5N1 virus that was currently circulating among poultry flocks in the area. The animals had been fed fresh chicken carcasses from a local slaughterhouse. A second, larger outbreak occurred at the end of 2004 at the biggest tiger zoo in Thailand. A total of 147 tigers died or were euthanized due to H5N1. In this case, although the outbreak was initiated by feeding contaminated carcasses to the animals, it appears to have been maintained by horizontal transmission of the virus between the animals (specific transmission mechanism currently unknown). Three Owston's Palm Civets (*Chrotogale owstoni*) that died in June 1995 tested positive for H5N1. The source of their infection is not known.

The Erasmus Medical Center in the Netherlands has recently published research showing that: 1) domestic cats inoculated intra-tracheally with an H5N1 strain isolated from a Vietnamese man who died of the disease, become symptomatic, show gross lesions characteristic of H5N1 infection and the virus can be re-isolated from their tissues; 2) horizontal transmission of the same virus can occur

between domestic cats in the laboratory setting; and 3) feeding infected chicks to domestic cats can produce clinical symptoms in the animals with subsequent viral shedding. A naturally occurring infection in a domestic cat was reported by Germany in 2006. A cat from a region that had reported infection in several wild birds tested positive for H5N1, and was thought to have acquired the infection after eating infected wild birds.

Without additional evidence of HPAI risk to domestic or free-ranging mammals in the United States, mammals will not be prioritized at this time in the planning of systems for early detection and disease surveillance. Testing for HPAI in mammals is available, when indicated, through the New York State Veterinary Diagnostic Laboratory (NYSVDL) at Cornell University.

Wild birds in New York City: Multi-Agency Task Force

DOHMH is working with its partners at the local, state and federal levels to develop plans for detecting and responding to HPAI in New York City. Several agencies and collaborative partners, including the DOHMH, New York State Department of Environmental Conservation (DEC), New York City Department of Parks and Recreation, the National Park Service (NPS), NYSDAM, Wildlife Conservation Society (WCS), and the New York City Office of Emergency Management (OEM) have drafted a protocol to investigate clusters of sick and or dead animals.

DEC is responsible for wild (free-ranging) bird disease surveillance. Wild birds die of many more likely causes than AI, and the Wildlife Pathology Unit (WPU) at DEC performs necropsies to assess those causes. The DOHMH will investigate unusual clusters of animal morbidity and/or mortality in collaboration with DEC and other agencies and partners to determine if there are any public health implications.

Certain animal diseases, and any outbreak of a disease in animals that could impact the public health, are reportable to DOHMH. The NYC Health Code, Section 11.64 mandates the reporting of, "an outbreak or suspected outbreak of any disease, condition or syndrome, of known or unknown etiology, that may be a danger to public health and that occurs in three or more animals, or any unusual manifestation of a disease in an individual animal, shall be reported to the Department immediately". The reports required by the Health Code, "shall be made by a veterinarian; by a person in charge of an animal hospital, rehabilitation facility, animal shelter, other institution providing animal care or treatment, zoological park, other facility responsible for animal care, or veterinary diagnostic laboratory".

Individual dead bird reports are collected by the DOHMH during West Nile viral (WNV) season between June 1st and October 31st of each year. Of those, a sampling of birds are collected by the DOHMH and sent to the WPU for WNV testing. Currently the WPU sends a random sampling of birds from NYC to the National Veterinary Diagnostic Lab for AI testing. The DOHMH also is establishing a contract with the NYSVDL at Cornell to conduct animal diagnostics on samples sent by DOHMH. Cornell is the reference lab to which NYSDAM sends its live bird market samples for AI testing.

Currently individual dead wild birds are not tested for avian influenza. Any cluster of dead waterfowl, or significant cluster of dead birds of any species, reported to DOHMH, will be evaluated and investigated. If the initial investigation suggests the possibility of HPAI H5N1, a sample of birds

will be collected and tested at either Cornell Veterinary Diagnostic Laboratory, or at the NVSL. If H5N1 were to arrive in North America, it is possible that individual dead birds of certain species identified in New York City, particularly waterfowl, might be tested for H5N1.

DEC, the New York City Department of Parks and Recreation, the WCS, NPS, DAM, OEM and the DOHMH are all agencies or collaborative partners that would either be contacted about sick or dead animals or observe them in the field. In collaboration with these partners, DOHMH is currently developing a citywide surveillance and reporting system to aid in the investigation and diagnosis of wild animal illness and death. The goal of the system is to centralize information about animal morbidity and mortality investigations, and to allow agencies and collaborative partners operating in NYC to work together when such incidents are identified in order to provide a comprehensive and consistent approach when responding to reports and subsequent inquiries from the public or city agencies/government officials. Should HPAI H5N1 arrive in New York City, the system will be useful in identifying birds for AI testing and managing referrals for diagnostic testing.

Laboratory Diagnosis for Non-Human Animal Infection

Laboratory testing for all strains of avian flu, including H5N1, in non-human animals is available from several reference laboratories. Domestic birds (poultry) are routinely tested by NYSDAM at the NYSVDL at Cornell University's Animal Health Diagnostic Center. On the Federal level, USDA's NVSL in Ames, Iowa can test for AI. Additionally, the National Wildlife Health Center (NWHC) laboratory in Madison, Wisconsin can perform testing, although current capacity is limited pending additional federal funding support. Within New York State, NYSVDL can accept samples on a fee for service basis, and additional avian influenza research is underway at the NYS DOH Wadsworth Center.

Response to the Discovery of HPAI H5N1 Avian Influenza in the United States

Any highly pathogenic avian influenza virus is considered a Foreign Animal Disease (FAD) and as such the discovery of any HPAI in poultry, wild birds, or captive exotic birds or mammals in the United States would result in an immediate state and federal response to control and eradicate the virus. The USDA Animal and Plant Health Inspection Service (USDA-APHIS-VS) has primary authority over all FADs found in the U.S. NYSDAM would work in conjunction with USDA-APHIS to quarantine and take all necessary measures as needed to eradicate HPAI.

In the event such a response is needed for any HPAI strain, WHO and CDC have advised that workers responding to such an outbreak take certain precautions to prevent human infection with HPAI. It is recommended that workers with potential exposure to HPAI receive the currently available human influenza vaccine (to reduce the possibility of a worker being co-infected with a human and avian flu virus) and to receive prophylactic antiviral medications.

Federal employees have responsibility for providing their workers with protective equipment and training, as well as vaccine and medications as needed. New York State employees (i.e. NYSDAM employees who work in the live bird markets) will need to coordinate through NYS Occupational Health, and this may require assistance through the NYS DOH or DOHMH to acquire and provide vaccine and antiviral medication. Non-governmental employees with potential exposure will need to work with their private and employee health care providers and the DOHMH. Occupational health

issues will be of concern not only for those working with potentially infected poultry, but also those in contact with potentially infected wildlife. The DOHMH is working with NYS DOH and other federal and state agencies to develop and disseminate guidelines for protection to workers at risk for exposure.

Information gathering and sharing is key to ensuring that all agencies can provide an appropriate response and guidance. The DOHMH will work with other agencies and partners to provide updated information and guidance to both the public, providers, veterinarians and other groups.

Activities by Pandemic Period

Using the World Health Organization classification system, below is the outline of surveillance and control activities by pandemic period developed by the NYS DOH. Although there is no HPAI currently in New York State, both NY State and the United States are considered to be currently in the Pandemic Alert Period due to the presence of HPAI H5N1 in Europe, Africa and Asia. Additional resources will be required at each level to conduct these activities.

- Interpandemic Period: A highly pathogenic (HP) AI virus subtype that has caused human infection may be present in animals.
- Pandemic Alert Period: Human infections are occurring with a HPAI virus subtype but there is no or only localized human-to-human spread.
- Pandemic Period: Pandemic period of infection with a HPAI virus subtype, with increased and sustained transmission in the human population.

Interpandemic and Pandemic Alert Periods

1. Federal agriculture/wildlife agencies (USDA/APHIS, WS; USDOI/FWS):
   - Participate in routine surveillance, testing, and control activities for avian influenza in wild birds.
   - Participate in collection and testing system for wild birds as part of an enhanced influenza surveillance system.
   - Education for wild bird morbidity/mortality reporting.
   - If avian influenza is determined to be a risk for NYC, provide personal protective gear for their workers handling birds likely to be infected.
   - If avian influenza is determined to be a risk for NYC, provide guidance about personal protection for contact with wild animals.
   - If avian influenza is determined to be a risk for NYC, coordinate occupational health issues for their workers including availability of human flu vaccine and antiviral drugs as indicated for workers handling birds likely to be infected.
2. State Agriculture Department (NYSDAM):
   - Routine surveillance, testing, and control for avian influenza in birds and nonhuman mammals.

- Participate in coordination of testing of wild and captive birds as part of an enhanced influenza surveillance system.
- Education for bird morbidity/mortality reporting.
- If avian influenza is determined to be a risk for NYC, provide personal protective gear for their workers handling birds likely to be infected.
- If avian influenza is determined to be a risk for NYC, provide guidance about personal protection for contact with animals.
- If avian influenza is determined to be a risk for NYC, coordinate occupational health issues for their workers including availability of human flu vaccine and antiviral drugs as indicated for workers handling birds likely to be infected.

3. State Environmental Department (NYSDEC):
   - Participate in routine surveillance, testing, and control activities for avian influenza in wild birds.
   - Participate in collection and testing system for wild birds as part of an enhanced influenza surveillance system.
   - Education for wild bird morbidity/mortality reporting.
   - If avian influenza is determined to be a risk for NYC, provide personal protective gear for their workers handling birds likely to be infected.
   - If avian influenza is determined to be a risk for NYC, provide guidance about personal protection for contact with wild animals.
   - If avian influenza is determined to be a risk for NYC, coordinate occupational health issues for their workers including availability of human flu vaccine and antiviral drugs as indicated for workers handling birds likely to be infected.
4. State Health Department (NYS DOH):
   - Develop materials and help educate LHDs and healthcare providers about HPAI.
   - At the Wadsworth Center, conduct research about the patterns of AI in wild birds.
   - Partner with other state agencies to develop a NYS interagency AI plan and guidelines for surveillance and personal protection.
5. Department of Health and Mental Hygiene (DOHMH):
   - Participate in routine surveillance, testing, and control activities for avian influenza in wild birds.
   - Participate in collection and testing system for wild birds as part of an enhanced influenza surveillance system.
   - Educate the public and partners on protocols for wild bird morbidity/mortality reporting.
   - If avian influenza is determined to be a risk for NYC, provide guidance on proper personal protective gear for city workers handling birds likely to be infected.

- If avian influenza is determined to be a risk for NYC, provide guidance about personal protection for contact with wild animals.
- If avian influenza is determined to be a risk for NYC, provide guidance on occupational health issues for city workers including availability of human flu vaccine and antiviral drugs as indicated for workers handling birds likely to be infected.
- Educate healthcare providers and the public about HPAI and potential risk to humans.
- Triage questions about AI in animals to veterinary and agriculture officials.
- Participate with other agencies in avian influenza surveillance, testing, and control activities in birds.

6. Healthcare Providers:

Refer patients with questions about AI in animals to veterinary and agriculture officials.

Pandemic Period

During an influenza pandemic, DOHMH will focus on efforts to track the epidemic, and to reduce morbidity and mortality associated with human disease. It is expected that activities related to monitoring and responding to avian influenza in birds and other animals will be greatly reduced in scope since the threat to public health will be primarily due to transmission of influenza among humans.

Note: Responsible party indicates lead agencies within NYS for each activity. Additional governmental and non-governmental agencies at the local, state, and federal levels will be involved in surveillance and testing. Activities by human health agencies for each period of human influenza case surveillance and response are outlined in other sections of the Plan.

Other Resources on Avian Influenza

Office of International Epizootics: www.oie.int

World Health Organization: www.who.int/csr/disease/avian_influenza/avian_faqs/en/index.html

United States Geological Survey National Wildlife Health Center:
www.nwhc.usgs.gov/research/avian_influenza/avian_influenza.html

United State Department of Agriculture: www.usda.gov

New York State Department of Agriculture and Markets: http://www.agmkt.state.ny.us/

New York State Department of Environmental Conservation: http://www.dec.state.ny.us/

Department of Homeland Security: http://www.pandemicflu.gov

Surveillance and Epidemiologic Responsibilities During a Pandemic

Once the arrival of a pandemic strain is recognized in NYC, the DOHMH Incident Management System would be activated, and the Surveillance and Epi (S&E) Section would be mobilized to conduct citywide surveillance and epidemiologic investigations. Specific responsibilities of the four Units within the S&E Section are outlined below:

I. Epi/Data

- Determine type of surveillance systems to be implemented, including sampling frame for more detailed case investigations and whether to attempt citywide or sentinel hospital field based surveillance
- Design surveillance forms and create database
- Design special surveillance and epi studies
- Monitor existing systems, including the Influenza Sentinel Provider Surveillance Network, Vital Statistics and syndromic surveillance systems (ED chief complaint, EMS, Pharmacy sales)
- Coordinate and establish prioritization scheme for laboratory confirmation at the PHL. Set up system to obtain sample of viral isolates for typing to monitor for changes in the pandemic strain
- Prepare daily surveillance reports for EOC

II. Hospital Preparedness Unit

- Monitor HERDS data in collaboration with the NYS DOH and GNYHA to identify hospital resource needs and prioritize allocation of scare resources
- Conduct regular conference calls with hospitals to provide updates on the outbreak, guidance on case management and infection control precautions, as well as the City's response

III. Field surveillance

- If indicated, mobilize and maintain hospital-based surveillance teams
- Conduct case surveillance as directed by Epi Data Unit
- Establish and staff telephone surveillance unit to triage cases from providers (pediatric deaths, vaccine failures, resistant strains)
- Assist with calls to Influenza Sentinel Provider Surveillance Network and virology labs, if needed

IV. Med/Tech

- Prepare regular provider alerts to update the health care community on the outbreak and provide criteria for reporting suspect cases

- Develop clinical and infection control guidelines for hospital, primary care and other settings
- Provide medical consultation to health care facilities requesting assistance due to nosocomial transmission
- Participate in all CDC and regional conference calls
- Provide clinical updates on citywide hospital conference calls
- Consult influenza experts as needed

V. Operations

- Ensure S&E staff have all needed supplies (including food) during emergency assignments
- Assure adequate working space
- Work with *Logistics Section* to coordinate transportation and parking needs for all S&E activities
- Mobilize additional staff to support all S&E activities, as needed (*e.g., data entry staff and public health nurses to triage suspect case calls from providers*)
- Track all PS (including overtime) and OTPS costs for Section

Section 3: Laboratory Diagnostics

OVERVIEW

Recognizing the introduction of novel influenza strains, such as H5N1 avian influenza, into New York City (NYC) depends upon early detection of the first clinical cases. Since the signs and symptoms of influenza are similar to those caused by other respiratory pathogens, laboratory testing must be conducted to identify a novel influenza virus. It is essential, therefore, to have a laboratory network in place to rapidly identify the subtype and strain of influenza virus infections.

Availability of accurate and rapid laboratory diagnostic testing for influenza is important wherever ill patients present for care. This includes ambulatory care sites, long-term care facilities, as well as hospital emergency departments and laboratories (called sentinel laboratories in the national Laboratory Response Network [LRN]).

Public health reference laboratories also play an important role by providing expensive, technologically advanced test methods, such as culture and molecular detection/subtyping. However, transportation of specimens to central laboratory facilities delays detection and makes antiviral treatment less effective.

OBJECTIVES

Regular influenza seasons will be used as preparedness drills to ensure that all components of the laboratory network function optimally. Goals of laboratory diagnostic testing during a pandemic include detecting outbreaks in closed communities, such as long-term care facilities; and monitoring stages of pandemic transmission, changes in pandemic strain characteristics, and antiviral susceptibility of the pandemic strain.

ROLES AND RESPONSIBILITIES

Public health and clinical diagnostic laboratories of the LRN have different roles during the interpandemic and pandemic alert phases than they will during the pandemic phase. The LRN is a national network of local, state, and federal public health laboratories that provide the laboratory infrastructure and capacity to respond to biological and chemical terrorism and other public health emergencies. Private local clinical diagnostic laboratories (sentinel laboratories) form the base of the pyramidal network, referring specimen or isolates to the public reference laboratories, which include state and local public health laboratories. These reference laboratories can refer specimens/isolates, when appropriate, to national government laboratories, including CDC.

CHALLENGES

To balance the technical demands of definitive diagnosis and molecular epidemiology with the need for immediacy of laboratory diagnosis, a distributed laboratory network is being established which includes point-of-care facilities, clinical laboratories, DOHMH Public Health Laboratory (PHL), as

well as the NYS Department of Health Virus Reference and Surveillance Laboratory (Wadsworth Center) and the Centers for Disease Control and Prevention (CDC).

I. Interpandemic and Pandemic Alert Periods (WHO phases 1-5)

Point-of-Care and Sentinel Laboratory Testing

Through various programs, DOHMH provides support for point-of-care and sentinel laboratories to accurately and rapidly diagnose influenza, including:

- Help with selecting immunoassays that are simple to perform and relatively accurate
- Provision of influenza test validation panels
- Provision of specimen collection materials
- Training for clinical personnel collecting specimens for influenza diagnosis
- Training for testing personnel that have not previously performed immunoassays

Sentinel Laboratories

Sixty-six NYC hospital and commercial laboratories have been licensed to perform influenza testing, including rapid antigen testing using a variety of commercially available kits, direct fluorescent antibody, and/or viral isolation. These laboratories are reminded annually, through the NYC DOHMH's annual influenza letter, to order adequate supplies and rapid test kits to collect, test, and transport diagnostic specimens via common carriers.

Most (85%) perform immunoassays, some of which are rated for regulatory purposes as "moderately complex," and some of which are "waived." Immunoassays typically produce results within 30 minutes or less, and usually distinguish between influenza A and B. The accuracy of the immunoassays varies somewhat by brand, but positive predictive value is generally high during an influenza outbreak. Low sensitivity is often a problem, however. The variable most highly correlated with sensitivity is adequacy of specimen collection.

DOHMH has produced a training poster for specimen collection, which is distributed to sentinel laboratories and point-of-care sites. The poster is also available on the DOHMH Web site. Also, PHL is currently offering training in specimen collection using a variety of formats including CDs. Specimen collection and transport materials are available from PHL, and are distributed to clinics and providers upon request. Provider sites send weekly reports about test results and influenza-like illness (ILI) visits. These sites also send specimens to PHL for confirmatory testing by virus isolation and limited hemagglutinin antigen typing.

During the off-season, sentinel laboratories performing only immunoassays are encouraged to confirm positive test results by sending specimens to PHL for virus culture and/or polymerase chain reaction (PCR) confirmation. This practice monitors test specificity, and allows subtyping (for surveillance purposes) of specimens that are positive for influenza A. During peak influenza season, sentinel laboratories are encouraged to confirm negative tests by sending them to either private or

public health laboratories for virus isolation and/or PCR confirmation. Training in packing and shipping specimens is provided by various sources, including PHL, which also makes training CDs for specimen packing and shipping available to sentinel laboratories. Specimen transport to the PHL is provided by DOHMH.

Point of Care

Thirty community health clinics permitted to perform waived testing were provided with waived influenza diagnostic tests and specimen transport materials. Each was also given on-site training in specimen collection and testing to expand our surveillance network. These sites also send specimens to PHL for influenza testing and subtyping.

Reference Laboratories and Confirmatory Testing

Ten NYC laboratories, including PHL, have virus isolation capability. Five of these virology laboratories participate in the WHO Collaborating Laboratory Surveillance System and National Respiratory and Enteric Virus Surveillance System (NREVSS) and submit representative or unusual influenza viral isolates during the season for strain typing and/or antigenic analysis. Laboratories that do not have viral culture capability may send some antigen-positive specimens to a commercial laboratory for confirmation. Most labs that provide rapid antigen testing for influenza also provide testing for RSV. The laboratories licensed to perform viral isolation have the capability for the differential diagnostic testing of other respiratory pathogens that can cause ILI (e.g., adenovirus, parainfluenza).

NYC Public Health Laboratory (PHL)

Testing capabilities include:

- **Isolation in culture and subtyping**
  NYC sentinel laboratories capable of isolating and typing influenza are encouraged to submit isolates to the PHL for preliminary subtyping. PHL has the capacity to identify influenza virus isolates containing hemagglutinins H1 and H3 by fluorescent antibody microscopy. This procedure requires 1 to 3 days. Any isolates unreactive with antibodies to H1 and H3 are promptly forwarded to NYS DOH Wadsworth Center for molecular subtyping and further identification. Through collaboration with Office of Chief Medical Examiner, respiratory specimens obtained at autopsy from cases with a respiratory component are sent to PHL for viral antigen detection and isolation in culture. These specimens are then forwarded to NYS DOH's Wadsworth Center for molecular testing to detect the causative influenza agent.

- **Molecular detection/typing/subtyping**
  Influenza A isolates and patient specimens are forwarded to Wadsworth Center for RT-PCR and subtyping.

- **Laboratory support for the Sentinel Provider Network**
  NYC is included in the CDC's Sentinel Provider Network through the NYS DOH. Specimen collection kits are provided to NYC sentinel sites by Wadsworth Center at the start of the influenza season. When specimens are obtained, DOHMH arranges transport to PHL.

Specimens or viral isolates are forwarded to NYS DOH's Wadsworth Center for testing, subtyping, and strain characterization.

Sentinel sites are instructed to call when they have collected a specimen from a suspected ILI or pneumonia case regardless of travel history. For routine specimens, DOHMH transport services pick up the specimens within one business day after notification; specimens are shipped from PHL to Wadsworth Center Monday through Thursday via commercial carrier for routine surveillance specimens. Emergency transport is available around-the-clock for suspected highly pathogenic influenza specimens based upon travel history, or medical and epidemiological criteria. Specimen collection kits are provided to the sentinels at the start of the surveillance program and will be replenished via DOHMH transport services when depleted.

- **Biosafety and biomonitoring of laboratory personnel**
  Surveillance for viral infections in staff exposed to highly pathogenic influenza viruses is important to detect lapses in safety practices/equipment, allow appropriate medical evaluation and treatment, and prevent secondary transmission. Surveillance measures include prompt reporting of all known safety lapses/exposures, staff awareness of viral symptoms, awareness of whom to contact in case of symptoms, and monitoring of staff absenteeism.

- **Packaging and shipping**
  To ensure that sentinel laboratories can safely pack and ship diagnostic specimens to public health reference laboratories, current packaging and shipping training certification CD-ROMs were sent to the State's 63 permitted general bacteriology sentinel laboratories located in NYC.

- **Reporting**
  The PHL will perform and preliminarily report on rapid influenza/RSV immunoassay within 4 hours of receipt into the laboratory during normal business hours. When performed at the PHL, viral culture results are available between 1 and 14 days after specimen receipt.

Surveillance

Effective surveillance requires communication of ILI and influenza disease patterns to health care providers and laboratories throughout the City. Testing of ILI respiratory samples by PHL will also detect outbreaks of RSV, parainfluenza, adenovirus, and respiratory picornaviruses.

- Regular communication of surveillance findings is conducted by the BCD influenza surveillance coordinator. This individual prepares a weekly report for distribution by electronic mail to key partners (including Sentinel Provider Network sites and viral laboratories). The report is also posted on the DOHMH Web site.

- The Bureau of Communicable Disease (BCD) also sends a Health Alert when the first influenza cases have been confirmed within NYC, and provides regular updates throughout the season.

- Provider educational materials on DOHMH Web site and regular Health Alerts are also used to encourage providers to:

  - Consider avian influenza in patients meeting clinical and epidemiologic criteria

- Report suspected cases to the BCD immediately in order to obtain assistance in arranging laboratory testing

Communication

- PHL sends an annual influenza alert to sentinel laboratories to provide information regarding current influenza tests and optimal specimen collection methods. This alert reminds laboratories to procure sufficient supplies and arrange with alternate vendors in case of backorders and shortages. Information is provided on biosafety issues, including the importance of adding a travel history field to specimen submission forms to ensure that they do not place specimens from highly pathogenic, such as avian, influenza cases into viral culture.
- PHL also encourages sentinel laboratories to submit isolates or specimens for epidemiologic purposes at the beginning and end of the influenza season to help monitor which subtypes of influenza are circulating in NYC. Contact information for the PHL, including information on how to obtain educational resources, such as posters detailing methods for collection of viral respiratory specimens and updated packaging and shipping certification procedures, are also included in these yearly alerts.

Testing

In addition to assisting sentinel laboratories in NYC, PHL will:

- Provide testing to detect outbreaks in institutional settings so that consultation can be provided on effective control measures.
- Collaborate with NYS DOH's Wadsworth Center to detect unusual or new strains of influenza virus.

NYS Public Health Laboratory (Wadsworth Center)

The Wadsworth Center is the reference laboratory for the NYC DOHMH's PHL. It subtypes influenza isolates sent through PHL from commercial and hospital laboratories throughout the City, particularly early and late in the influenza season, although this service is available year-round.

On original specimens, Wadsworth Center performs real-time RT-PCR for detection of influenza A and B. The results are available 24 to 72 hours after receipt of the specimen. Part of the specimen is inoculated into cell cultures that support replication of respiratory viruses. Results of virus isolation are usually available in 4 to 14 days.

Wadsworth Center also conducts virologic testing on respiratory specimens from patients suspected of infection with avian influenza. If the patient meets clinical and epidemiologic criteria for avian influenza, molecular testing for influenza, including subtyping, is performed. Sera from these patients is stored for future testing.

Prior to shipment of specimens from patients suspected to be infected with avian influenza or a novel influenza virus, BCD will inform PHL, which will notify the NYS DOH regional epidemiologist to arrange testing at Wadsworth Center, if appropriate.

Influenza test information from Wadsworth Center is reported through ECLRS and a paper report sent to PHL. Results are uploaded to ECLRS by 8:00 a.m. each day. Several reports are available for each sample:

- The first report contains the results of real-time PCR assay, giving influenza type.
- The second report documents subtype.
- The final report is marked accordingly.

II. Pandemic Period (WHO Phase 6)

During the early stages of a pandemic, the demand for diagnostic testing will increase substantially, while laboratory staff, supplies, and transport capacity will likely be limited. The goals of laboratory diagnostic testing during a pandemic, therefore, must focus on:

- Detecting outbreaks in closed communities, such as long-term care facilities
- Monitoring stages of pandemic transmission
- Monitoring changes in pandemic strain characteristics
- Monitoring antiviral susceptibility of pandemic strain

Priority in testing will be determined by BCD.

Specimen Transport

BCD will request DOHMH transport to pick up and deliver specimens to be tested at PHL. For critical specimens, same day delivery will be requested.

Surge Capacity

To prepare for increased testing, PHL has implemented the CDC's LRN (Laboratory Response Network) H5 PCR test system. The laboratory updates its testing protocols for influenza typing and subtyping, in conjunction with the NYS DOH Wadsworth laboratories, so as to continually optimize testing as the genetic nature of a pandemic influenza becomes known. Both routine and high volume throughput instrumentation will be employed.

Information on the utility of commercial influenza A antigen rapid EIA kits will forwarded to sentinel laboratories as soon as this information or data is available.

Lines of communications have been established with both NYS DOH and CDC LRN laboratories for availability of immediate updating of test protocols for optimization of test sensitivity and specificity.

As part of the DOHMH's incident management system PHL staff will be reassigned to appropriate surge duties for 24/7 operations.

Priority in laboratory testing will be given to specimens identified as:

- Special surveillance and epidemiologic studies
- Outbreaks in settings of particular public health importance
- Unusual cases, such as suspected antiviral resistance or vaccine failures

NASOPHARYNGEAL SPECIMEN COLLECTION FOR VIRAL RESPIRATORY PATHOGENS

A Guide For Providers

USE MASK, GLOVES, AND EYE PROTECTION

NASOPHARYNGEAL ASPIRATE METHOD (PREFERRED)

Materials:

- Suction apparatus (Luken's trap, syringe, or bulb)
- Sterile suction catheter (e.g., #8 French)
- Sterile saline
- Viral transport medium tube

1. Attach catheter to suction apparatus.
2. Instill several drops of sterile saline into each nostril.
3. Place catheter through nostril to posterior nasopharynx (distance from nostrils to external opening of ear).
4. Apply gentle suction. Using rotating motion, slowly withdraw catheter.
5. For an optimal sample, repeat procedure using other nostril.
6. With the viral transport medium, rinse secretions through the catheter into the collection container.

NASOPHARYNGEAL SWAB METHOD

Materials:

- Nasopharyngeal swab (flexible shaft) with rayon tip
- Viral transport medium tube

1. Bend shaft to follow curve of nasopharynx.
2. Insert swab through nostril to posterior nasopharynx (distance from nostrils to external opening of ear).
3. Rotate swab a few times to obtain infected cells.
4. For an optimal sample, repeat procedure using other nostril.
5. Place swab in transport medium.
6. Bend or cut shaft to completely seal transport tube.

TRANSPORT AND STORAGE

1. Send specimen to lab immediately (testing sensitivity decreases over time).
2. Cool specimen to 2° - 4°C (36° - 40°F) during storage and transport.

Incline patient's head as shown.

NYC Health

THE NEW YORK CITY DEPARTMENT of HEALTH and MENTAL HYGIENE

Michael R. Bloomberg, Mayor
Thomas R. Frieden, MD, MPH, Commissioner

07.06

Submitter: _____ Facility: _____ Address: _____ City: _____ State: _____ Zip: _____ Telephone: (_____) _____ Fax: (_____) _____ Requesting Physician _____ Physician Phone (page/cell) _____/_____	**PUBLIC HEALTH LABORATORY** New York City Department of Health & Mental Hygiene 455 First Avenue New York, NY 10016 **VIRUS DETECTION SUBMISSION FORM** **Attn:** William R. Oleszko, Ph.D. **Room:** 136 **Telephone:** (212) 447-2864 **Fax:** (212) 447-2877	FOR PHL USE ONLY

PATIENT INFORMATION (*PLEASE PRINT*; ALL FIELDS MUST BE COMPLETED)

Last Name	First Name	
Street Address	Apt. #	
City	State	Zip
Date of Birth m m / d d / y y y y	Sex : ☐ MALE ☐ FEMALE	Medical Record #
Patient Home Phone #	Patient Cell or Other Phone #	
Race ☐ Asian ☐ Black ☐ White ☐ Native American ☐ Other	Ethnicity ☐ Hispanic ☐ Non-Hispanic ☐ Unknown	
Current Diagnosis	Hospitalized? ☐ Yes ☐ No If Yes, hospital name: _____	
Onset Date m m / d d / y y y y ☐UNKNOWN	Exposure Date m m / d d / y y y y (if known)	

SPECIMEN SUBMISSION INFORMATION

Date Collected m m / d d / y y y y	**Time Collected**	FOR PHL USE ONLY
Signs, Symptoms, Provisional Diagnosis ☐ **Fever** ☐ **Diarrhea** ☐ **Central nervous system symptoms** ☐ **Rash** ☐ **Vomiting** ☐ **Other (specify):** _____ ☐ **Upper respiratory symptoms** ☐ **Lower respiratory symptoms**		
Exposure /Travel History		

SPECIMEN TYPE	**Virus suspected:**
☐ **Blood** ☐ **CSF** ☐ **Serum** ☐ **Stool** ☐ **Urine** ☐ **Nasopharyngeal/Lower respiratory** (check specimen type: ☐ **wash** ☐ **swab** ☐ **aspirate**) ☐ **Tissue (specify):** _____ ☐ **Other (specify):** _____	**TEST REQUESTED: Isolation and/or Detection of** ☐ **Aseptic meningitis virus** ☐ **Encephalitis virus** ☐ **Gastrointestinal virus** ☐ **Respiratory virus** ☐ **Other (specify)** _____

Comments:

ADDITIONAL TESTS MAY BE PERFORMED ON THESE SPECIMENS FOR PUBLIC HEALTH EPIDEMIOLOGIC PURPOSES

Section 4: Community Control and Response

OVERVIEW

Community and personal protection measures are likely to play an important role throughout an influenza pandemic. Indeed, these may be the best measures available in initial stages, and even the entire first wave of a pandemic, before vaccine is available and while supplies of antiviral agents are limited.

OBJECTIVES

DOHMH will initiate activities for control and response in communities throughout New York City (NYC), with the goal of minimizing transmission of pandemic influenza and reducing mortality and serious morbidity while maintaining essential services.

ROLES AND RESPONSIBILITIES

DOHMH will assess epidemiologic, clinical, and behavioral characteristics of the pandemic strain such as virulence, incubation period, period of contagiousness (including asymptomatic shedding), and affected populations. Based on these assessments, DOHMH will recommend strategies to limit transmission, taking several factors into account, including: likelihood of reducing mortality and serious morbidity, cost vs. benefit, and potential for social disruption.

CHALLENGES

NYC DOHMH is cognizant that any interventions that aim to limit influenza transmission and decrease social mixing may interfere significantly with the daily activities of New Yorkers. Recommendations on whether and which community measures to implement would be made by DOHMH to governing officials. The decision to make such recommendations will be based on multiple factors.

Demographic profiles of NYC based on annual samples of 10,000 households collected as part of the Community Health Survey are available to inform community containment strategies, and to indicate translation needs of particular communities.

I. Interpandemic and Pandemic Alert Periods (WHO Phases 1-5)

Community Measures

During these phases, the DOHMH Influenza Pandemic Planning Group will convene regularly to discuss the developing situation and plan accordingly. With the exception of active promotion of respiratory and hand hygiene measures, community containment strategies will not be recommended during these phases.

- Once a novel influenza virus is recognized overseas with the potential for or identification of human-to-human transmission (pandemic phase 3 and 4), enhanced surveillance would be needed for travel-related cases.
- Limited control measures targeting close contacts of suspected early cases may be considered (see Section 2, Surveillance and Epidemiologic Response). However, at these stages, sustained, efficient spread from person-to-person and the potential to cause a regional or City-wide outbreak in NYC is still unlikely.
- As outlined in Section 9 (Communications), respiratory and hand hygiene will be promoted for health care providers, hospitals and clinics, and the general public (e.g., cover your cough/sneeze, observe strict hand washing, stay home when ill).

NYC DOHMH publishes, distributes, and makes available on its Web site public education materials in multiple languages. "Cover Your Cough" materials, for example, are available in English, Spanish, Chinese, French, Creole, Korean, Russian, Korean, Hindi, Vietnamese, Bengali, Urdu, Hebrew, Yiddish, and Arabic at http://www.nyc.gov/html/doh/html/cd/cd-cough.shtml

II. Pandemic Alert Period (WHO Phase 5)

During Phase 5, larger clusters of human-to-human transmission will have been identified. While these clusters will still be localized, developments may indicate that the virus has become increasingly better adapted to humans, but may not yet be fully transmissible. To minimize transmission:

- DOHMH will continue to encourage respiratory and hand hygiene practices among health care providers and the general public.
- In addition, increased attention will be paid to passengers arriving at NYC-area ports of entry. DOHMH regularly coordinates and meets with staff of the CDC Quarantine Station at JFK International Airport in Queens, which has jurisdiction over all ports in New York, Connecticut, Pennsylvania, and Vermont. The station has emergency response capabilities, including isolation and communications facilities, and is staffed by public health personnel who conduct surveillance, response, and communicable disease prevention activities.

Informational Activities at NYC Area-wide Ports of Entry

Passengers entering the NYC area via airplane, ship, or other means from pandemic disease areas will be provided with public education materials (e.g., fact sheet, flyer). These materials will inform passengers that they have recently traveled to an area where human-to-human transmission of a novel strain of influenza has occurred and will outline signs and symptoms that they should report to authorities at immigration. They will be advised to be alert for these signs and symptoms for a designated period of time and report any indications of illness to a health care provider should they develop.

In the earliest stages of a pandemic, before cases are reported in NYC, any symptomatic individual who enters the region by plane and self-reports (or is reported by airline or airport personnel) would be transported to the quarantine station for evaluation. This information would be reported to

DOHMH. Once pandemic influenza has been reported in NYC, this measure would have less utility and would likely be discontinued.

The federal government has legal authority at airports to implement isolation, quarantine, or other public health measures to prevent the introduction of specific diseases from abroad, including influenza caused by a novel or re-emergent strain.

Isolation of Confirmed/Suspected Cases

Mandatory isolation — ideally in a hospital setting — will likely be considered only for initial cases during the Pandemic Alert Period or early in the pandemic If indicated, persons with confirmed or suspected infection with a novel strain of influenza who refuse voluntary hospitalization would be hospitalized in a secure isolation and quarantine ward funded by DOHMH at a local hospital.

Factors that would favor the enforcement of isolation include a relatively small number of cases a low proportion of subclinical cases, and the ability to monitor adherence. Use of temperature and symptom logs and automation of fever checks for individuals in isolation is currently being explored.

Legal Issues

Memoranda of Understanding (MOUs) with the Division of Quarantine are currently under development to allow transfer of persons with suspected pandemic influenza to 4 local hospitals.

III. Pandemic Period (WHO Phase 6)

Once an influenza pandemic arrives in NYC, DOHMH will consider the following community control measures, with the goal of minimizing human-to-human spread while imposing the least restrictive measures possible.

Decisions on which measures to recommend and when they should be implemented will be made based on local epidemiology by the Commissioner of Health, in consultation with the Mayor, Governor, and/or other CIMS agencies, as appropriate.

It is imperative that NYC DOHMH maintain appropriate communication with stakeholders and the public during implementation of the following measures. Whenever possible, consultation with decision-makers in neighboring jurisdictions will be employed to ensure consistency from region to region.

Community control efforts will include:

Encouraging Respiratory and Hand Hygiene

These hygienic practices will remain essential throughout the pandemic period and will continue to be stressed to the general public via frequent media alerts (through general and ethnic media outlets), dissemination of fact sheets to community groups, NYC agencies, health care provider sites, and the Internet (see Section 9, Communications).

Isolation of Confirmed/Suspected Cases

Individuals known or believed to be infected with pandemic influenza who are not ill enough to require hospital care will be encouraged to stay home and avoid contact with other persons. Home isolation will be voluntary and guidance will be provided to household members about how to minimize the risk of transmission while caring for the ill person. Mandatory isolation will likely be considered only during the earliest period of a pandemic (see Isolation of Confirmed/Suspected Cases above).

Quarantine of Contacts

Mandatory quarantine of contacts would not be recommended once the pandemic arrives in NYC. Individuals exposed to persons infected with pandemic influenza will be encouraged to be alert for symptoms and to seek medical care if they develop fever and respiratory symptoms. Household members of contacts should pay particular attention to respiratory and hand hygiene practices. Quarantine will only be warranted for a limited time when:

- There is limited disease transmission in the area
- Most cases can be traced to contact with an earlier case or exposure to a known transmission setting (e.g.,a school or workplace where a person has fallen ill)
- Intervention is likely to either significantly slow the spread of infection or to decrease the overall magnitude of an outbreak in the community

Use of Masks in Community Settings

Prevailing evidence suggests that seasonal influenza is primarily spread through droplet transmission. Contact and airborne mechanisms of transmission are thought to play lesser roles. There is a lack of available evidence to suggest that wearing surgical facemasks in community settings by the general public will be beneficial in preventing spread of pandemic influenza.

Health care personnel will be encouraged to wear personal protection equipment (whether surgical facemasks or N95 masks pending federal recommendations) during routine patient care encounters. Patients who are symptomatic with confirmed or suspected pandemic influenza will also be encouraged to wear a surgical facemask during routine health care encounters.

Symptomatic individuals who who must go out in public will be encouraged to wear facemasks. Other actions in reference to facemasks will include:

- A “permissive” approach may be adopted regarding wearing masks in public by individuals who are not ill. At present, neither WHO nor CDC recommends or encourages wearing masks in community settings by people who are well. As information becomes available regarding the primary mode of spread of a pandemic strain, advice regarding wearing masks in public settings may evolve.
- DOHMH plans to purchase and stockpile a supply of facemasks that may be used by the general public as recommended in circumstances described above.

- Public messages regarding the use of facemasks by asymptomatic individuals in the community setting should emphasize that masks are not a substitute for social distancing or other personal protection measures, especially strict and frequent hand washing.
- Supply issues should be considered so that mask use in communities does not limit availability for health care settings, where the importance and effectiveness of masks has been documented. (See Section 2, Appendices 2B and 2C.)

Travel Advisories

Advisories for people traveling to and from affected areas may be issued by CDC during the early stages of a pandemic. The decision to issue such advisories is likely to be based on the presence of local cases and level of activity in affected regions. Travel advisories will be included in DOHMH public education messages, translated into appropriate languages. Outreach to the media will be coordinated with the Office of Emergency Management's Joint Information Center.

School Closures

There are no systematic studies that show the effect school closures have on levels of influenza activity in a community. (School closures at the peak of influenza outbreaks are usually a response to high student and/or staff absenteeism — not an effort to prevent transmission.)

Children are often implicated as sources of infection during influenza activity. Decisions regarding school closures will depend on:

- The specific characteristics and epidemiology of the pandemic strain
- The mortality and hospitalization rates among children
- The likelihood that children would not spread pandemic influenza in other, non-academic settings
- The impact on the workforce
- Consideration for the health and welfare of the children affected by such closures
- The evidence for the effectiveness of this intervention

DOHMH is currently working with the NYC Department of Education to promote awareness of the importance of respiratory / and hand hygiene practices. In addition, emphasis is being placed on creating contingency plans to respond to staff absenteeism as well as continue educational activities during school closures.

Cancellation of Public Gatherings

Evidence regarding the effect on influenza transmission of canceling public gatherings is lacking. Decisions regarding such cancellations will depend on the specific characteristics and epidemiology of the pandemic strain as well as other considerations listed at the beginning of this section.

Screening at Ports of Entry

Once pandemic influenza arrives in NYC, routine screening of passengers at airports, shipping ports, and other ports of entry will be of limited value. Educational material may be provided and screening via self-report and/or fever detection may be considered in the early stages of a pandemic, before the pandemic strain arrives in NYC. These activities would be achieved in coordination with CDC/Division of Quarantine and the JFK Quarantine Station.

Encouraging Reduction in Crowding on Mass Transit

Crowding on mass transit in NYC may lead to increased transmission of the pandemic strain. Telecommuting and other measures may be encouraged to reduce crowding.

Ongoing meetings with representatives from public agencies and private business have addressed the concept of telecommuting. DOHMH and OEM will continue to work with these agencies and businesses to encourage and aid in the development of contingency plans to encourage maintenance of essential services during a prolonged pandemic.

DOHMH is exploring options to promote respiratory and hand hygiene other public education messages in the subway and on buses.

These community control measures would be implemented in order to decrease mortality and serious morbidity, and to maintain essential services. Maintenance of essential services in a host of areas (e.g., healthcare, social services, transportation, food delivery, utilities, financial, information technology, and private businesses) is a crucial part of this Plan (see Section 1, Command, Control, and Management Procedures).

Vulnerable Populations

- **Children**. Messages regarding respiratory and hand hygiene will be distributed to encourage parents and other care givers to help children observe these precautions as much as possible. In addition, age-appropriate posters and other educational material may be placed in schools and other settings where children congregate. Parents of children in school, day care, or other congregate settings will be encouraged to keep children home who have symptoms consistent with pandemic influenza. Planning activities with the NYC Department of Education are underway.

- **Homeless**. Information regarding respiratory and hand hygiene precautions will be made available to homeless shelters; staff and clients will be urged to observe these measures. Planning has begun with NYC agencies that operate shelters and point-of-entry surveillance measures and options for cohorting symptomatic individuals are under discussion.

- **Homebound**. Home health agencies are currently pandemic influenza planning partners of DOHMH. Respiratory /hand hygiene measures will be reinforced for staff at agencies that serve homebound individuals. Planning with these agencies will emphasize maintenance of home health services to ensure that homebound individuals will continue to receive an appropriate level of care during a pandemic.

- **Undocumented**. Reaching immigrant populations with basic infection control measures and social distancing information will be imperative during an influenza pandemic. Undocumented individuals will be targeted to receive information via ethnic media as discussed in Section 9, Communications).
- **Imprisoned**. DOHMH has initiated planning with the NYC Department of Correction. Included in this effort are measures to ensure respiratory /hand hygiene precautions by inmates and staff in jails and prisons, as well as measures to cohort symptomatic individuals.

Section 5: Health Care Planning and Emergency Response

OVERVIEW

This section addresses aspects of health care surge capacity and management during a pandemic developed (or in development) under the New York City Department of Health and Mental Hygiene's (NYC DOHMH) guidance. Incorporating proven strategies, these systems will be used to enhance capacity to manage and treat patients requiring medical care during pandemic influenza. Many of the documents, guidelines, toolkits, and templates referred to in this section may be found at the DOHMH Web site. Go to www.nyc.gov/health/bhpp, Bioterrorism Hospital Preparedness Program: NYC Healthcare PREPARES.

Health care facilities incorporated into this planning effort include:

- Hospitals
- Primary care centers
- Emergency medical services
- Home care agencies

Planning Areas

The issues addressed in this section for the interpandemic, pandemic alert, and pandemic periods closely follow those areas described in the U.S. Department of Health and Human Services (HHS) Pandemic Influenza Plan, November 2005:

- Planning elements
- Hospital surveillance
- Communications between health care systems and DOHMH
- Education and training
- Triage, clinical evaluation, and admission procedures
- Infection control precautions for health care personnel
- Occupational health
- Use and administration of vaccines and antiviral drugs
- Surge capacity
- Security
- Mortuary issues
- Special Populations

OBJECTIVES

Interpandemic and Pandemic Alert Periods

During the interpandemic and pandemic alert periods, DOHMH will emphasize the development of institutional plans, infrastructural support, and policies/protocols and drills for responding to influenza pandemic. Also, DOHMH will assist in planning for regional coordination between various components of the health care system and local, state, and federal governments.

Pandemic Period

During the pandemic period, DOHMH will work in close coordination with other City agencies involved in the Unified Command Structure of the City-wide Incident Management System (CIMS). These agencies include:

- Greater New York Hospital Association (GNYHA)
- Health and Hospitals Corporation (HHC)
- NYC Fire Department and Emergency Medical Services (FDNY-EMS)
- NYC Police Department (NYPD)
- NYC Office of Emergency Management (OEM)
- New York State Department of Health (NYS DOH)

In addition, close coordination will be required with other city and regional agencies such as the Regional Emergency Medical Service Council of NYC (REMSCO) and the Community Health Care Association of New York State (CHCANYS).

ROLES AND RESPONSIBILITIES

The Bioterrorism Hospital Preparedness Program (BHPP) in the DOHMH Bureau of Communicable Disease (BCD) has day-to-day responsibility for planning, assessing, and communicating surge capacity needs in hospitals and other health care facilities. In an emergency, BHPP staff becomes part of the Surveillance and Epidemiology section of DOHMH CIMS, and the BHPP medical director reports directly to the section co-leaders. In this section, the term "DOHMH" includes BHPP staff.

CHALLENGES

Unique Features of a Pandemic Influenza Outbreak

The potential impact of pandemic influenza on the health care system differs from many bioterrorism threats in its potential magnitude and duration, including the likelihood of multiple waves of disease. Several features set pandemic influenza apart from other public health emergencies or community disasters:

- Outbreaks due to a novel strain of pandemic influenza can be expected to occur simultaneously throughout much of the U.S., preventing the sharing of human and material resources from other states that usually occurs in response to other disasters. New York City (NYC) and its health care community should be prepared to rely on their own resources. The impact of pandemic influenza on individual communities will be relatively prolonged (weeks to months) in comparison to disasters of shorter duration.
- Because of widespread susceptibility to a pandemic influenza strain, the attack rate in NYC is anticipated to be high.
- Health care workers and other first responders will be at higher risk of exposure and illness than the general population, further stressing the health care system.
- Effective preventive and therapeutic measures, including vaccine and antiviral agents, are likely to experience significant production delays and will be in short supply, especially during the first pandemic wave.

The success of this plan will require ongoing input from multiple partners, including representatives from the NYC health care community and key local and state government partners. Adequate funding is also required to assist in building health care system infrastructure and to provide dedicated time for health care professionals to participate in the planning process. There is a need to educate both the public and the provider communities regarding the more challenging aspects of this plan ahead of time (e.g., potential need to modify standards of care and allocation of key resources to priority groups). Ongoing training and drills continue to identify gaps and address them.

Interpandemic and Pandemic Alert Periods (WHO phases 1-5)

NYC has 70 hospitals, including adult and pediatric, specialty, and Veteran's Administration medical centers. In 2002, the Health Resources and Services Administration National Bioterrorism Hospital Preparedness Program was created through Section 3191C-1 of the Public Health Services Act to enhance the ability of hospitals and supporting health care systems to prepare for and respond to bioterrorism and other public health emergencies. This funding has allowed DOHMH to assist building infrastructure and planning efforts in NYC's acute care hospitals and other health care entities. Many of the surveys, evaluations, trainings, hospital-based projects, drills, exercises, and City-wide and regional planning described in this document have been a result of this funding.

Planning assumptions include:

- Hospital preparedness planners in NYC recognize that all hospitals need to be prepared; there will be no designated pandemic influenza hospitals.
- When assistance is needed, hospitals will first work within their network, followed by unaffiliated hospitals with whom they have formal and informal agreements, and then more directly with GNYHA, DOHMH, OEM, HHC, and NYS DOH.

- The Health Emergency Response Data System (HERDS)* is a data collection tool that will allow agencies within CIMS to anticipate potential shortages in beds, staff, and equipment, and if necessary, to reallocate resources.
- An effective health care surge capacity response must be inclusive and involve primary care centers, EMS agencies, long-term care facilities, and home care agencies. Emergency preparedness planning at DOHMH is well underway, including active planning and coordination with umbrella agencies representing primary care centers (e.g., CHCANYS) and EMS agencies (e.g., REMSCO).
- DOHMH developed a toolkit with 5 tabletop exercises to allow hospitals to conduct drills for their bioevent emergency response plans. One of the scenarios focused on the hospital response to pandemic influenza and has been drilled at many hospitals. DOHMH has attended many of these tabletop exercises and has reviewed the hospitals' after action reports.

Planning Steps Previously Taken by Hospitals

Current and prior DOHMH efforts to improve all-hazards and pandemic preparedness activities at NYC hospitals through Health Resources and Services Administration (HRSA) funding have included:

- All hospitals have an Incident Command System (ICS) in place, and have designated Incident Commanders (ICs) and written Job Action Sheets for their all-hazard's emergency response plans. Activation of their respective ICS has occurred and been tested during emergencies and drills.
- Each hospital has a designated emergency preparedness (EP) coordinator to act as a liaison between its facility and BHPP-DOHMH. BHPP has quarterly meetings with all EP coordinators to brief them on current preparedness activities, including pandemic planning, and to obtain feedback from the hospital's perspective.
- The EP coordinator's and at least 1 alternate's contact information is updated regularly. All EP coordinators, department heads, and senior level administrators are expected to have access to DOHMH Health Alert Network, NYS DOH Health Information Network, and the DOHMH Web site.
- Hospitals have developed a cadre of staff that understands how to enter facility-specific data on HERDS. These data are entered weekly, and HERDS drills and surveys are conducted in coordination with the NYS DOH to maintain awareness of how to use the system during emergencies.
- All hospitals have previously submitted a written bioevent emergency response plan to DOHMH for review and feedback.
- All hospitals have participated in a multi-agency, City-wide pandemic influenza tabletop exercise in 2005 that focused on issues related to surge capacity response. The after-action report prepared by DOHMH was distributed to all participants and to hospitals' CEOs; findings and next steps were presented at EP coordinators' meetings.

* The Health Emergency Response Data System (HERDS) is a flexible electronic data collection tool for hospitals' bed, staffing, and isolation capacities. Each hospital has employees trained in HERDS data entry. The data is reviewed by public health planners to assess citywide health care capacity and resource needs.

- Hospitals have had the opportunity to send staff to several training sessions in mental health preparedness as follows:
  - Mental health risk communication training was conducted for hospitals' clinical and administrative personnel. The training comprised preparedness for high risk situations and effective communicate, both internally and with the community. Each participant was given a resource kit that included mental health articles, materials on somatic reactions, acute anxiety disorder, and post-traumatic stress syndrome, and tools, techniques and guidelines for risk communications, media relations, and message mapping. In 2005, five 2-day interactive workshops were administered.
  - A total of 450 health care workers were trained on the psychosocial consequences of bioterrorism and other public health emergencies. These training sessions were offered during the change of shifts to encourage staff participation.
  - One representative lab professional from each of the 70 NYC sentinel laboratories in the Laboratory Response Network (LRN) was asked to attend training sessions on appropriate methods for specimen packaging and shipping.

Surveillance (see Section 2, Surveillance and Epidemiologic Response)

- Surveillance will include the need for hospitals and primary care centers to have systems in place during the pandemic alert period to identify patients at risk for infection with novel influenza strains (e.g., patients presenting with influenza-like illness within 10 days of returning from an area affected by H5N1 avian influenza).
- Hospitals participate in DOHMH's robust syndromic surveillance system and electronic clinical laboratory reporting system.
- Several primary care centers are adopting an electronic medical record system to enhance their capacity to report to DOHMH.

Communications Between Health Care Systems and DOHMH

Planning Steps Taken by DOHMH

Ensuring redundant communication systems has been a key component of hospital preparedness planning at DOHMH.

- Planning steps taken by DOHMH include several methods of communication with health care facilities, including:
  - Blast faxing
  - Dedicated phone lines
  - Digital and conventional telephones
  - E-mail
  - Electronic automatic notification call down tree

- Health Alert Network (HAN)
- Nextel radios
- NYC MED (the DOHMH medical provider portal)
- Teleconferences
- 800 MHz radios

All of the methods above have been tested and used by hospitals and DOHMH.

- Health alerts are sent to health care providers on acute public health issues, including pandemic and avian influenza, in the form of Dear Colleague Letters, Health Alerts, City Health Information bulletins, and Dear CEO letters. DOHMH also forwards to providers information received from U.S. Department of Health and Human Services (HHS), Centers for Disease Control and Prevention (CDC), and World Health Organization (WHO). DOHMH also circulates information from the NYS DOH Health Information Network to hospitals.
- In coordination with GNYHA, the DOHMH Communications Office has established partnerships with public information officers at NYC hospitals regarding communication during emergencies, and has provided risk communication training. This training will help ensure consistent public and media messages during emergencies such as pandemics.
- DOHMH has created a protocol to alert hospital-based senior administrators about breaking public health emergencies (such as H5N1 in NYC) via a rapid, automated electronic notification system. Messages include information such as a brief summary of the emergency, information on how to log in to a follow-up teleconference call for more information, and notification about HERDS activation or the circulation of a new health alert. This protocol was designed primarily for use during non-business hours (see Appendix 5A).
- Four notification drills occurred in 2005, and more will be conducted at least twice yearly. The ongoing, aggregated results will be shared with hospitals.
- An automated notification system has also been developed for Federally Qualified Health Centers (FQHCs). This system has been used in 2006.
- Arrangements are in place for establishing teleconferences with all hospitals and other key health care partners at any time through AT&T. A standing, toll-free line is available to BHPP for teleconferences and up to 150 lines are available for use. More lines may be obtained as needed.

Planning Steps Taken by Health Care Facilities

- In a 2005 hospital survey, every NYC hospital reported having redundant communication with each agency listed-public health, local, EOC, EMS, law enforcement, and emergency management. These emergency systems include:
  - Dedicated phones
  - E-mail

- Fax
- Fiber optics
- HAM radio
- Health Alert Network (HAN)
- Microwave radio
- Phones
- Satellite phone
- 800 MHz radios

- Health care systems have redundant mechanisms in place to communicate with their own staff (e.g., e-mail, in-service programs, and electronic automated call down systems). These systems have been tested during drills and used during emergencies, and are refined and modified regularly.
- HAN access is offered through the new DOHMH Medical Provider Portal (NYC MED). Efforts are ongoing to encourage registration by all licensed health care providers in NYC. HAN will continue to enlist staff from:
  - FQHCs
  - CHCANYS
  - REMSCO
  - Private providers

Presently, FQHCs have signed up for HAN. REMSCO receives health alerts and distributes them to approximately 73 EMS agencies in NYC.

- Health alerts are sent routinely during a normal influenza season to health care providers, hospitals, and nursing homes when influenza virus is first detected in NYC. Continuous updates on the level of activity and the types/subtypes of influenza circulating are sent during the season. In addition, DOHMH has sent regular updates on the H5N1 outbreak overseas, with reminders for NYC providers to remain alert for travel-related cases.
- Outpatient providers who do not have access to the Internet at work may have received a personal digital assistant (PDA) from DOHMH that has allowed them to log on to the HAN and receive health alerts, clinical decision support for diseases (such as influenza), and access to drug formularies.
- 800 MHz Radios
  - GNYHA has assisted all NYC hospitals in purchasing 800 MHz radios and providing staff training on equipment use.
  - NYC OEM conducts a daily radio check for all hospitals on the 800 MHz system.
  - The radios serve as an additional method to quickly contact hospitals and exchange information with them.

Emergency Medical Services

- Radios are being purchased for non-FDNY EMS agencies, along with instructions for use in the City-wide radio system.
- REMSCO has developed a Web site for their member EMS agencies to transmit health alerts and other pertinent information.
- REMSCO meetings occur regularly with all NYC EMS agencies and have been used as a forum for introducing infection control protocols and addressing other all hazards preparedness issues.

Education and Training

Planning Steps Taken by DOHMH

- DOHMH conducts regular meetings with the Emergency Preparedness Coordinators at all NYC hospitals. These meetings provide an opportunity to update health care systems (primarily hospitals) on issues of concern related to City-wide and institutional pandemic preparedness plans
- As of May 2006, 3 joint DOHMH, NYS DOH, and GNYHA meetings have been devoted to pandemic influenza planning. Included in these meeting agendas were federal, state, and local pandemic influenza plan updates for health care institutions. Speakers have included individuals from CDC, HHS, NYS DOH, DOHMH, and surrounding counties and states. These meetings will continue to be conducted as planning efforts continue to evolve and be finalized.
- GNYHA has sponsored regular updates about pandemic influenza planning for their Emergency Preparedness Coordinating Council and DOHMH staff is often asked to present on topics surrounding pandemic influenza preparedness, including supply chain issues, workforce issues, infection control, and clinical guidelines.
- The Emergency Care Institute at Bellevue Hospital Center has established awareness and hazard mitigation training (interactive and hands-on) for NYC health care providers. Training includes introduction to biologic agents, and reviewing infection control precautions for standard, droplet, and airborne pathogens. During 2004 and 2005, 450 hospital-based health care workers attended the training. Of these attendees, 90 became instructors for their own hospitals.
- DOHMH BHPP is working with the BCD, the Bureau of Communications, and other DOHMH bureaus to create educational materials for patients, family members, and visitors regarding respiratory and hand hygiene, with a focus on what can be done to prevent disease transmission in the hospital, as well as at home and in community settings. Materials are produced in different languages and for varying reading levels.
- DOHMH BHPP is working with heath care partners to develop “just in time” trainings on key issues, such as infection control, to facilitate staff education once the pandemic arrives.

Planning Steps Taken by Hospitals

- Hospitals have sent over 700 health care workers to emergency preparedness training at Bellevue's Emergency Care Institute
- Holding regularly attended DOHMH and GNYHA meetings related to pandemic influenza planning
- Providing in-house staff training sessions

Planning Steps Taken by Primary Care Centers

- CHCANYS has enhanced its emergency preparedness infrastructure with staff expertise to provide regular trainings for FQHCs and other primary care centers.
- CHCANYS members and representatives from FQHCs attend meetings and trainings at DOHMH and GNYHA.
- CHACANYS leadership sponsors monthly teleconference calls for medical directors of FQHCs. Emergency preparedness topics, including avian influenza updates and pandemic influenza preparedness activities, are discussed.

Triage, Clinical Evaluation, and Admission Procedures

A critical component of health care preparedness is ensuring that effective triage and isolation procedures are in place at hospitals and primary care centers. These procedures facilitate the early recognition and appropriate management of patients presenting with clinical symptoms and/or epidemiologic risk factors for influenza due to novel strains.

Planning Steps Taken by BHPP

- BHPP has developed guidelines for hospitals to enhance the recognition, triage, isolation, and evaluation of patients with fever and respiratory or rash symptoms that may represent a more highly communicable disease agent, such as smallpox, avian influenza, or pandemic influenza. The guidelines were distributed to hospitals with the request they be incorporated into written emergency department (ED) protocols. Hospitals were also asked to provide trainings for ED staff (see Appendix 2C in Section 2).
- BHPP staff has evaluated unannounced drills to assess performance in 56 EDs during the presentation of a "sham patient" with cough/fever and risk factors for avian influenza. Immediately after the drill, a debriefing is conducted, including a step-by-step review of the screening and isolation procedures that were observed and recommendations to address identified gaps. Of FTE ED staff, 90% has received training in their hospitals screening and isolation protocols for patients entering the ED with fever and cough, or fever and rash.

Planning Steps Taken by Hospitals

Hospitals are being asked to conduct the following planning steps:

- Develop a plan and confirm ability to enhance triage capacity as needed by use of alternate areas in existing facilities and use of volunteer staff.
- Develop strategies for triage and admission that minimize the risk of transmission to staff, patients and visitors including telephone triage as a strategy to discourage unnecessary visits to the ED.
- Identify and train staff from other parts of the hospital or from the community to increase triage staff in the event of a large outbreak, such as pandemic influenza.
- 63 hospitals have submitted their screening and isolation plan for a patient with fever and cough entering the ED.
- 56 hospitals have drilled their protocol in conjunction with DOHMH.

Planning Steps Taken by Primary Care Centers

Triage guidelines have also been developed for primary care centers to enhance early recognition of influenza from a novel strain.

- A screening and isolation protocol for patients entering clinics with symptoms or risk factors that suggest a communicable disease of public health importance was developed and is being reviewed by CHCANYS.
- CHCANYS and DOHMH will work together to implement, drill, and evaluate the protocol in a typical primary care center, and then distribute the guidelines to all FQHCs and other primary care sites.

Infection Control Precautions for Health Care Personnel

Standard and droplet infection control precautions are presently recommended for routine patient care during a pandemic.

Planning Steps Taken by DOHMH

- CDC posters addressing the proper sequence for both donning and removing personal protective equipment (PPE) for infectious diseases have been sent to NYC hospitals, long-term care facilities, and primary care Article 28 facilities.
- Internet-based educational materials providing instruction for the use of surgical masks, gloves, gowns, and goggles/face shields are being reviewed for their potential usefulness in providing just-in-time training and review of the proper sequence of donning and removing of PPE.
- Patient and provider educational signage, such as “Cover Your Cough” and “Hand Hygiene” for use in the hospital EDs have been developed in multiple languages for culturally diverse populations. These materials are posted on the DOHMH Web site.

- DOHMH triage, screening, and isolation guidance emphasizes the importance of placing signage that indicates the type of infection control precautions that should be taken outside of the patient's door.
- Presently, HHS recommends droplet and standard precautions for routine patient care. Airborne precautions and the appropriate respiratory equipment (N95, face piece respirator for special circumstances, or positive airway pressure respirator [PAPR]) are recommended for aerosol-generating procedures. Much debate still exists about the use of N95 masks vs. surgical masks for routine patient care, and modifications in the recommendations may occur. Updates by DOHMH will be provided to the health care community.
- DOHMH is preparing a cache of supplemental PPE for standard, droplet, and respiratory infection control precautions for use during a pandemic. The size of the cache will be based upon storage capabilities and available funds.

Planning Steps Taken by Hospitals

- In September 2005, during the City-wide tabletop exercise, 94% of the 68 hospitals represented answered that their hospital staff would accept standard and droplet infection control precautions when pandemic influenza arrived. It is essential to provide health care workers with a review of proper infection control precautions for pandemic influenza prior to the arrival of pandemic influenza.
- Hospitals are being asked to indicate in yearly critical assets surveys the quantity of PPE they have for a large outbreak requiring droplet or airborne precautions.
- Hospitals are being asked to post infection control messages for the public and their staff at visible and frequently used locations (e.g., EDs, primary care centers, nurses' stations, conference rooms).
- Promote, implement, and evaluate the respiratory hygiene program used by health care workers and patients.
- Hospitals are being asked to develop training during which staff can practice and be observed donning and removing PPE.

Planning Steps Taken by Primary Care Centers

- CHCANYS trained 150 health care providers to provide fit-testing to staff in 25 large FQHCs and 50 satellite centers.
- Training and drills that discuss and evaluate donning and removing PPE for a contagious respiratory disease that requires droplet precautions are being developed. Presently, FQHC is preparing an interactive training for health care providers using Glo Germ, a powder that can be illuminated with an ultraviolet light to identify gaps in infection control practices. Final materials will be shared with other primary care centers and hospitals.

Planning Steps Taken by Emergency Medical Services

- 400 paramedics and emergency medical technicians from 83 EMS agencies have received training in infection control precautions for standard, droplet, airborne, and contact precautions.
- Training in infection control precautions is ongoing.
- A cadre of emergency medical technicians has been trained in fit-testing others.

Occupational Health

Planning Steps to be Taken by DOHMH

- Manage the initial suspected cases of influenza due to a novel strain during the pandemic alert period and the very start of a pandemic in NYC, including active monitoring of contacts when indicated.
- Investigate clusters of influenza-like illness, in coordination with NYS DOH.

Planning Steps to be Taken by Health Care Facilities

- Facilities should have plans in place for managing initial suspected cases of a novel strain of influenza (either during the pandemic alert period, or the initial cases in NYC at the start of the pandemic).
- All health care workers providing direct patient care will need to comply with recommended precautions. Employee health or infection control staff should have a mechanism to identify all health care worker contacts, and implement active monitoring for fever and respiratory symptoms until laboratory testing rules out infection with a novel strain, or, if confirmed, until at least 5 days after the patient's illness resolves.
- Reinforce infection control education and training of health care personnel, regardless of the setting (e.g., hospital, long-term care facility, home health agency, EMS).
- Determine how "just in time" refresher training and education will be provided for all health care personnel at the start of a pandemic influenza outbreak.
- Educational outreach to health care personnel will need to focus on:
  - The importance of strict adherence to infection control measures, especially hand hygiene.
  - Standard and transmission-based precautions, including droplet and airborne precautions.
  - Avoidance of hand to mucous membrane contact (e.g., eyes, nose, mouth), regardless of glove use.
  - The clinical aspects of influenza, including signs and symptoms, epidemiology, and transmission. Health care workers will need to be reminded that there is an enhanced risk of transmission during procedures that produce aerosols (e.g., bronchoscope, intubation/extubation, nebulized respiratory treatments, deep tracheal suctioning). Therefore,

such procedures will need to be performed in an airborne infection isolation room, using airborne infection control precautions.

- The proper use of PPE as per standard and transmission-based precautions, including donning, removing, and disposing of PPE (see http://www.cdc.gov/ncidod/dhqp/ppe.html).

- Develop work restriction policies, including clear guidance on the need for staff to stay home in the event of fever and respiratory symptoms, and ensure staff receives education and training on these policies. The number of days that staff may be asked to remain at home prior to returning to work will be determined based on the epidemiology of the pandemic strain (i.e., expected period of contagiousness, duration of viral shedding). Human resource departments and senior administration will need to determine time and leave policies for ill or exposed health care workers.

- Develop a strategy for regularly updating clinicians, direct patient care staff, and screening/triage staff on the current status of the pandemic and any changes in the recommendations for the management of influenza patients.

- Develop a plan to provide for staff's physical and mental health needs at work (food, rest, ability to contact family during prolonged shifts, recuperation-including breaks from PPE, as well as psychosocial support systems).

- Designate appropriate staff to be responsible for the monitoring of employee health and adherence to appropriate infection control precautions. Consideration should be given to assigning full-time staff in all patient care areas to be solely responsible for observing staff compliance with proper donning and doffing of PPE, and educating them immediately if errors are noted. The most appropriate staff to be assigned this responsibility includes employee health and/or infection control professionals.

- Instruct all health care workers to report influenza-like illness to the appropriate department (e.g., employee health or infection control):

  - If onset of employee illness occurs during work, instruct the health care worker to don a surgical mask and report to a designated clinical evaluation area.

  - If onset of illness occurs at home, instruct the employee to report by telephone their illness to the designated department and to not report to work until symptoms resolve. Human influenza virus sheds for 5-7 days and health care workers will need to stay home for at least 7 days. This recommendation may need to be changed based on the actual epidemiologic characteristics of the pandemic strain if the shedding period is determined to be shorter or longer

  - Assess whether any employee illness is part of a health care-related cluster of illnesses.

  - Investigate any clusters of influenza-like illness among staff/visitors or patients, and report to NYS DOH and DOHMH.

Similar occupational health protocols will need to be used in primary care center and emergency medical services.

Use and Administration of Vaccines and Antiviral Drugs

(see Section 3, Vaccine Management, and Section 6, Delivery of Antiviral Agents)

Distribution of Antiviral Drugs

- In September 2005, during the City-wide tabletop exercise, 92% of the 68 hospitals represented stated their staff would be able to comply with federal, state and/or city guidelines regarding limited distribution of antiviral drugs for treatment of those in priority groups.
- Hospitals will be asked to designate drop-off sites, identify recipients, track the distribution of antiviral drugs, and report and treat any adverse events.

Vaccine Administration

- At present, sufficient vaccine against the pandemic strain of influenza is not expected to be available during the first wave.
- However, vaccine may be available during the interpandemic period or the second wave. All NYC hospitals have developed written plans for mass influenza vaccination and using central points-of-distribution plans for the rapid distribution of pharmaceutical agents including vaccines. These plans have been reviewed by DOHMH and written feedback has been provided. In addition, all hospitals have participated in or observed DOHMH POD drills, in order to better understand City protocols.
- Hospitals will be asked to designate drop-off sites, identify recipients, track the distribution of vaccines, and report and treat any adverse events.

Surge Capacity Planning

Coordination of hospital surge capacity planning needs has involved input from hospital administrators, appropriate clinical care staff, and the Emergency Preparedness Coordinators, as well as with NYS DOH, OEM, HHC, and GNYHA.

- NYC's surge capacity response to pandemic influenza is assumed to occur primarily in hospitals and primary care centers. Hospitals will not be able to transfer potentially contagious cases/patients, will likely function at full capacity, and may lack adequate critical care capacity. Since the pandemic will be widespread in the United States, the supplies from the Federal Strategic National Stockpile (SNS) may not be available and local caches will need to be relied upon.
- In the absence of sufficient antiviral drugs and/or vaccine, general supportive care and intensive care for critically ill patients in hospital settings may be the only health care options available. Therefore, DOHMH surge capacity planning focuses on steps that can be taken to enhance critical care capacity, as well as ensuring that hospital care is targeted to those most likely to survive. Such efforts will help minimize severe morbidity and mortality, especially during the first wave of the pandemic. In addition, it will be essential to leverage the capacity of the primary care system to manage patients with less severe illness and those at lower risk for complications or death. This shift will minimize the impact on acute care hospitals. Similarly, it will be important to work with both home care and long-term care facilities to help offset the demand for hospital care.

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Planning Steps Being Addressed by DOHMH in Cooperation With Key Partners

- Develop surge plans for triage and clinical management of a large influx of patients seeking care during a contagious disease outbreak.
  - DOHMH is working with CBPP hospitals to prepare generic templates for rapid patient discharge, canceling elective surgeries, and expanding staffing shifts. These templates and protocols will be useful during the early stages of a pandemic and are expected to free up to 20% to 30% of beds. The templates will be distributed and posted on HAN and www.nyc.gov/health/bhpp
  - Home care guidelines are being created by DOHMH and will provide instructions for individuals who may go home and care for themselves or for ill household members (see Appendix 5G in this Section).
  - In 2006, DOHMH is funding a work group to develop a template hospital plan for distribution to all NYC hospitals that will address all aspects of a hospital response to a contagious disease outbreak due to a respiratory pathogen, such as pandemic influenza. Understandably, a pandemic is expected to require sustained surge capacity efforts by the hospital and will create demands for health care resources that greatly exceed those normally available. This template plan will include strategies to enhance staffing, increase available beds, stockpile necessary supplies, and continue essential medical services.
- Address the need for sufficient intensive care and ventilatory support for patients with respiratory distress/failure.
  - Estimate needs for emergency mass critical care during pandemic influenza.
  - To estimate the needs for emergency mass critical care during pandemic influenza, in December 2006, DOHMH used CDC's computer model, FluSurge2. The estimates were based upon the following parameters:
    - NYC's population = 8.2 million persons
    - Total staffed non-ICU beds = 24,464
    - Total staffed ICU beds = 1,713
    - Full-featured ventilators for adults, children, and neonates = 2,688
    - NYC attack rate = 25% to 35% of population

    The analysis revealed that critical care beds would be in shortest supply (at the peak of the epidemic, up to 93% of NYC's critical beds will be filled with pandemic-related patients). The greatest challenges to the city's health care response may not be with the total number of available beds but with the staffing and the equipment required for respiratory and intensive care support. The following activities are in motion in anticipation of the challenges presented to hospitals:

- DOHMH is funding a multi-hospital work group to integrate new tools and templates with previously created documents into a hospital surge capacity plan for use during an infectious disease outbreak requiring respiratory isolation.

- DOHMH is planning to purchase ventilators and the associated durable medical equipment in increments and in conjunction with NYS DOH. A conservative-to-moderate estimate assumes that 25% of admitted patients requiring ICU care (with 50% of those receiving ICU care requiring ventilation would result in a projected shortfall of between 256 and 1,331 ventilators. Using the same assumptions for a projected 1918-like pandemic, produces a projected shortfall of between 2,036 and 9,454 ventilators. Based upon these numbers alone, it is important to consider augmenting existing ventilator capacity for adults, children, and neonates in NYC.

  Understanding that the purchase, storage, and maintenance of ventilators is a large endeavor, NYC DOHMH will begin by purchasing a limited number of ventilators to pilot the acceptability and usability of emergency ventilators in hospitals. Furthermore, 2 types of training courses will be developed — formal training for respiratory therapists and "just-in-time" training for respiratory therapy-extenders that will be created, tested, and evaluated, thereby enhancing the effectiveness of a wider implementation of surge/stockpiled ventilators. The activities outlined above will be reviewed with BHPP's City-wide critical surge capacity advisory group and NYS DOH, and also include:

  - Developing guidelines for hospitals to extend staff coverage of critical care units, including respiratory therapy staff.

  - A proposed strategy to create a 2-tiered staffing approach in the ICU whereby 3 non-critical care nurses might be assigned responsibility for 2 patients each (6 total) under the direction of 1 critical care nurse. According to studies, 4 critical care nurses could potentially oversee a 24-bed unit. NYC-specific guidelines will be developed in conjunction with hospitals.

  - Similar strategies may be used for other health care workers, especially respiratory therapists and physicians.

- Use HERDS as a tool to monitor and address resource and staffing needs during a pandemic.

  - HERDS drills will continue to insure that hospitals are able to enter data about the availability of staff, equipment, and beds during an emergency.

  - NYS DOH is preparing a Concept of Operations document that will describe the HERDS activation criteria, process, escalation, and deactivation.

  - The creation of a multi-agency Unified Health Command (UHC) by NYS DOH is being considered and would be composed of members from CIMS. The purpose of UHC during an emergency would be to review and prioritize requests received through HERDS and/or phone calls to the NYC Emergency Operation Center (EOC) for health care facility assets. It would assist in prioritizing of requests, moving supplies and equipment to health care facilities, and ensuring receipt of material and/or resolution of problem.

- BHPP will be responsible for summarizing HERDS data from NYC hospitals and presenting key information to DOHMH IMS leadership.

Planning Steps To Be Addressed By Hospitals

- **Core Planning**
  - **Staffing**: Estimate projected needs, develop efficient care models (e.g. cohorting), and utilize trainees (e.g. medical students).
  - **Bed capacity**: Evaluate bed capacity and identify and prioritize all areas suitable for patient care and ability to open closed patient care areas.
  - **Admission and discharge**: Update and review admission and discharge criteria; establish triggers for postponing elective procedures.
  - **Isolation capacity**: Create strategies for enhancing isolation capacity, including wards for cohorting patients with pandemic influenza and/or creating non-traditional isolation spaces.
  - **Supplies**: Take inventory of and estimate needs for supplies, estimate needs of supplies, medication and equipment, and develop efficient tracking system and trigger points for ordering.
  - **Essential medical services**: Identify what services must be maintained (e.g. medical and surgical emergencies, dialysis services) and develop a plan to ensure their continuance. Memorandums of Understanding (MOUs) (Appendix 5C) may be needed with unaffiliated primary care centers and/or dialysis centers to offset the additional patients coming to the hospital for pandemic influenza evaluation and treatment.
  - **Education and training**: Educate and train staff on surge plan; conduct and evaluate drills on surge plan.
  - **Review plan for activating ICS**
- **HERDS**: Hospitals are required to have at least 1 staff member per shift who is able to access HERDS and understands how to enter data and send messages through the secure messaging forum. HERDS should be integrated into all hospital's ICS system, with designated staff roles for collecting, entering, and using the data to request resources. Hospitals should be prepared to provide HERDS updates several times a day, if requested.

Essential Health Care Staffing

- Health care providers may not come to work because they are ill, taking care of ill family members, or fearful of becoming sick at work. Making the work environment safe, therefore, will be essential to enhance the number of staff coming to work.

  Hospitals and other health care facilities need to educate health care workers regarding the importance of creating family emergency preparedness plans in advance of an emergency, understanding the modes of transmission of influenza, and the infection control measures that

will need to be taken to protect themselves, and the need for participating in trainings, drills, exercises, and discussions about pandemic influenza. DOHMH will provide assistance in the development of these materials.

- Mental health concerns of all health care workers need to be considered in planning for influenza pandemic (see Section 8, Mental Health Response).
- Health care facilities must have a policy to address staff that refuses to work with influenza patients.

Credentialing and Privileging Procedures

Although materials have been prepared and national volunteer registration systems are being developed, available staff from outside facilities or jurisdictions will be much less available unless NYC is one of the first jurisdictions involved in the pandemic or becomes involved during the second wave when more potential volunteers have acquired immunity.

Planning Steps Addressed by DOHMH

- In conjunction with DOHMH, GNYHA prepared and distributed to hospitals a "Model Disaster Privileges Policy," and a "Model Memorandum of Understanding Regarding Sharing Personnel During a Disaster," which were reviewed by NYS DOH, in order to assist hospitals in utilizing volunteers not affiliated with their facilities (See Appendices 5B-5D).
- DOHMH is joining efforts with its local Medical Reserve Corps (MRC) and the NYS DOH Health Care Worker Volunteer Program so that common databases may be accessed for additional help during an emergency. To date, the NYC MRC has over 4,000 volunteers with clinical backgrounds registered.
- DOHMH is beginning to build its Emergency System for Advanced Registration of Health Professions (ESAR-VHP) in conjunction with NYS DOH's ESAR-VHP and the existing NYC Medical Receive Corps.

Planning Steps To Be Addressed By Hospitals

Many NYC hospitals are divided into networks, many of which have established internal credentialing and privileging procedures among their affiliated hospitals and primary care centers.

Each NYC hospital is expected to develop institution specific plans for accepting volunteers (Appendix 5D) into their facility. Some hospitals intend to use staff from their affiliated ambulatory care sites. If surgical or specialty procedures are cancelled or decreased, then nursing, medical, and other staff from these services will be available to assist with the care of pandemic patients or assume other necessary roles.

Potential Legal Barriers

During a pandemic, certain laws and regulations may need to be waived (e.g., those that require licensed personnel to perform certain duties). DOHMH is working with NYS DOH and other

relevant governmental agencies to address those issues. Potential issues during an emergency for health care facilities include:

- Charting and documentation
- Closure of hospitals or primary care centers
- Reimbursement for uninsured persons
- Liability and compensation for volunteers who work in a health care facility
- Liability and compensation for health care facilities that agree to take volunteers into their workplace
- Adjusting staff titles to fit staffing shortage
- Reaching agreement with unions about acceptable work conditions during an emergency
- Adhering to the Emergency Medical Treatment and Active Labor Act (EMTALA)

Maintenance of Essential Medical Services

- To maintain essential medical services, careful coordination will be needed between hospitals, primary care centers, and other outpatient Article 28 facilities (e.g. dialysis centers). Coordination with home health agencies and long-term care facilities will be needed as well. The emphasis will be on allowing hospitals to care for the sickest patients, regardless of etiology, and to maximize the resources of other health care facilities and home care agencies to care for those less severely ill and/or at lower risk for complications or death, as well as those less likely to survive even with critical care support.
- Representatives from home health agencies, primary care centers, and long-term care facilities participated in the City-wide pandemic influenza tabletop exercise in September 2005. It was clear that these other health care settings would play an essential role in the City-wide response; however, more in-depth planning is needed.

Consumable and Durable Supplies

Having sufficient supplies for patients and health care workers during a pandemic will be a challenge because hospitals generally do not maintain large inventories. Inventory maintenance is costly and time-consuming, and contracts with vendors allow for quick delivery of supplies. The amount of PPE and other durable medical supplies and pharmaceuticals that may be needed during a prolonged pandemic response will be significant.

Planning Steps To Be Addressed By DOHMH

DOHMH is coordinating with GNHYA, OEM, NYC DOHMH Bureau of Emergency Management (BEM) and health care facilities to select, purchase, and store supplies for a City-wide cache.

Planning Steps To Be Addressed By Hospitals

- Consider stockpiling enough consumable resources such as respiratory masks and gloves for the duration of a pandemic wave (6-8 weeks). Hospital networks may decide to store the supplies in one location. Existing systems for tracking available medical supplies in the hospital should be evaluated to ensure they are capable of detecting rapid consumption, including PPE supplies. Efforts should be made to improve the system as needed to respond to growing demands for resources during an influenza pandemic.
- Each hospital should assess anticipated needs for consumable and durable resources, and determine a triggers for ordering extra resources.
- Anticipate needs for antibiotics to treat bacterial complications of influenza and determine how supplies can be maintained during a pandemic.

The Role of Alternate Care Sites

At this time, non-traditional alternate care sites for triage or acute patient care (e.g., school gymnasiums, armories) are not being considered, given the difficulty of adequately staffing, supplying, supervising, and providing adequate medical care using appropriate infection control procedures in non-hospital settings during a pandemic.

- DOHMH is working with the existing health care system and local and state partners to develop strategies to enhance the capacity at available health care facilities (even if the facility has been closed) rather than using spaces that are not normally equipped to care for patients with a contagious disease.
- The infectious disease work group is preparing information for hospitals about creating non-traditional patient care space within the hospital. The Agency for Healthcare Research and Quality (AHRQ) has been a source of information for expanding bed capacity (http://www.ahrq.gov/research/altsites/) and is being evaluated by the multi-hospital infectious disease work group.
- It is unlikely that patients sick enough to require hospital-level care will be willing to go to an alternate facility, as the level of care will not be equivalent to a hospital. Patients not sick enough to be hospitalized will be much better cared for at primary care centers or at home.

Planning Steps to be Addressed by Primary Care Clinics

During a pandemic, the effective delivery of outpatient services and the use of primary care facilities as additional triage sites will be critical. Key planning considerations for primary care settings include:

- Developing screening, isolation, and treatment procedures that minimize the risk of disease transmission in patient care areas, including waiting rooms (e.g. physical separation of patients, “sick call” hours)
- Reinforcing and actively monitoring infection control practices among staff

- Enhance triage and treatment capacity through increased hours of operation
- Possibly being a source of hospital volunteers

Other important functions that primary care facilities/providers should incorporate into their planning include:

- Whenever feasible, collaborate with hospitals that serve their patient population to establish telephone hotlines to provide the public with advice on whether to stay home or to seek care at a primary care or acute care setting, as this may help reduce the volume of mildly ill patients, for whom only supportive care recommendations will be indicated (e.g., rest, drink fluids, etc)
- Serve as a referral point for hospital triage sites for patients that can be managed on an outpatient basis
- Serve as additional triage (and treatment) sites for mildly ill patients and patients at lower risk for complications/death to provide patients an alternative to presenting at the hospital, thus easing the burden on hospital EDs
- Serve as a source of information to community members and leaders on measures that can be taken to protect health (e.g., enforcing hand hygiene measures) and when to seek care
- Provide mental health services or referrals for the community
- Maintain essential outpatient medical services for non-pandemic influenza patients

Suggested Planning Steps for Home Care Agencies

- Have an around-the-clock contact telephone number, a current staff call-down list, a patient locator system and a plan to enhance capacity (surge capacity plan).
- Create a contact list of key community partners including DOHMH, local emergency operations centers, the NYS DOH regional office, and other health care providers.
- Maintain an up-to-date patient roster and prioritize those patients according to the number of weekly visits and type of care required.
- Ensure that key staff has current DOHMH (Health Alert Network) HAN and NYS DOH Health Physician Network (HPN) accounts.
- Educate staff on disease-prevention strategies, including infection control precautions (including use of PPE) that may be shared with caretakers in the home.
- Review identification of symptoms with staff at all levels to promote early detection and minimize the spread of disease.
- Develop policies and procedures to monitor for staff illness.
- Define role during a pandemic by coordinating and planning with DOHMH, NYS DOH, and NYC OEM.

- Stay up-to-date with protocols that DOHMH develops especially for home care instructions for suspect or known case-patients.

Further work is needed to develop home care strategies and information that home health workers will be able to provide to case-patients and their families.

Security

Planning Steps Taken by DOHMH

- Security personnel have participated in the hospital-based bioevent tabletop exercises sponsored by DOHMH.
- Security personnel have also been included in the training sessions and unannounced screening and isolation drills for a patient entering the ED with fever and cough because they may be the first staff on the hospital premises to identify patients with these symptoms.
- Security personnel have been asked to attend EP training sessions offered by the Emergency Care Institute at Bellevue Hospital Center.
- Although the important and heightened role security personnel will play during pandemic influenza has been acknowledged and addressed in trainings and drills, security equipment upgrades are also needed.

Planning Steps to be Taken by Health Care Facilities

- Limit facility access.
- Define essential and non-essential visitors and determine how security personnel may be used to enforce and maintain access controls, if needed.
    - Define methods for verifying identification of staff and visitors.
        - Define essential and non-essential visitors with regard to the hospital and the population served, including protocols for limiting non-essential visitors
    - Enforce hospital access by hospital security services.
        - Local NYPD precincts should be informed of the hospital security plans.
        - Indications and roles for providing assistance should be worked out in advance.
        - Hospitals and other health care facilities should anticipate that the NYPD might be overburdened during a pandemic and therefore will have limited ability to assist with security services.
    - Consider plans for having staff act as additional security personnel. This may be required given the increased demand for services, the possibility of long wait times for care, and because triage or treatment decisions may not be in agreement with patient or family expectations (e.g., if antiviral use is limited to those in priority groups).

07.06

Mortuary Issues

- The Office of Chief Medical Examiner (OCME) has assessed current capacities and developed a mass fatality plan for the care and disposition of the dead, including storage and disposition.
- The OCME presented their pandemic influenza plan in City-wide pandemic influenza conferences for health care providers during the September 2005 City-wide pandemic tabletop exercise. The OCME will assist hospitals with storage of bodies when their morgue capacity is exceeded, and if needed, will procure additional refrigerated trucks.

The OCME expects hospitals to be responsible for:

- Assessing their refrigeration capacity and their inventory of body bags and other supplies needed to handle a significant increase in the number of dead
- Issuing death certificates per routine procedures and/or guidance from DOHMH Office of Vital Statistics
- Securing personal effects and returning them to families
- Reporting morgue capacity via HERDS
- Requesting additional capacity prior to overflow
- Tracking location/disposition of bodies
- Identifying morgue point of contact via HERDS
- Reporting unidentified deceased persons to OCME

Additional preparedness initiatives are underway with funeral firms.

DOHMH may need to modify existing procedures for the processing of death certificates; any modifications to mortality reporting requirements should be clearly communicated to hospitals.

I. Pandemic Period (WHO phase 6)

The primary goal of DOHMH during the pandemic period is to enhance the capacity of the health care system to care for the increased burden of illness due to the pandemic. DOHMH will work in close coordination with the NYC health care community, NYS DOH, GNYHA, and other City agencies involved in the CIMS. As creating new or alternate hospital and primary care centers will not be possible, efforts will focus on making the existing health care capacity as efficient as possible, and targeting the use of this capacity to those patients most likely to survive. This will necessitate a multi-pronged approach, including:

- Effective screening to triage patients appropriately to hospital versus home care settings, requiring hospitals to enhance bed capacity for pandemic-related patients (e.g., canceling elective admissions, opening closed patient care areas)
- Altering normal standards of care and regulatory requirements (e.g., nurse to patient ratios, required paperwork documentation)

- Effective risk communication strategies to gain the public's cooperation and trust in the need to limit hospital care for those most likely to benefit

Overall Responsibilities of BHPP Once the Pandemic Arrives in NYC

- Provide leadership, in conjunction with key health-related agencies in the NYC CIMS, in proactively addressing surge capacity needs during the peak pandemic period.
- Identify and address gaps in medical services for both pandemic-related and non-pandemic related illnesses with DOHMH, NYS DOH, and other pertinent agencies in the unified command structure of CIMS.
- Serve as the primary communication liaison between DOHMH, hospitals, and primary care centers regarding emergency response activities. Communication methods will include NYC HAN, HERDS, teleconference and video conference calls, and on-site meetings at DOHMH or GNYHA.
- Provide expertise in hospital-related surge capacity issues to DOHMH, NYC Emergency Operation Center (EOC), and at multi-agency meetings.
- Alert health care administrators about changes in health care regulations issued by the NYS DOH (protocols, procedures, and standards of care).
- Develop, disseminate, and reinforce infection-control and clinical care guidelines for hospitals/health care providers and communicate changes in guidelines, based on the epidemiology of the pandemic strain.
- To closely assess surge capacity needs, oversee DOHMH activities related to monitoring and reporting on HERDS data.
- Emphasize the importance and assist with the provision of ongoing education and mental health services for health care employees.
- Through public communication efforts (see Section 9, Communications), provide regular messages to the public regarding home care for persons less severely ill and guidance regarding who should seek care at hospitals.

Planning Elements

PRIORITY ACTIVITIES

- Coordinate activities with NYS DOH, other city agencies/organizations in CIMS, other previously mentioned agencies, and the health care community.
- Track bed availability, staff, supplies (including PPE and antibiotics), and equipment (including ventilators) needs through HERDS and phone calls to NYC EOC to identify gaps and proactively work via the Unified Health Command and NYC EOC to address them.
- Provide and, as needed, update recommendations for health care facilities on clinical management including triage, laboratory testing, reporting, infection control precautions, and

treatment/prevention measures based on the clinical and epidemiologic characteristics of the pandemic strain.

- Effect ongoing communications between public health and the clinical care community about policy decisions affecting health care institutions.

Surveillance (see Section 2, Surveillance and Epidemiological Responses)

- DOHMH and NYS DOH will provide guidance to health care facilities on:
  - The detection, diagnosis, and management of suspected or confirmed pandemic patients.
  - The detection and prevention of secondary infections (e.g., staphylococcal pneumonia).
  - The mechanisms for reporting data on hospitalized pandemic-related admissions and deaths.
- Once the pandemic arrives in NYC, DOHMH will transition from requesting reporting of individual cases to methods that allow electronic capture of hospital admissions. However, more detailed clinical and epidemiologic data will be collected on a sample of cases from select sentinel hospitals to help inform public health and medical decision-making.
- At the start of the pandemic, DOHMH surveillance staff may be stationed at affected hospitals to actively ascertain information on suspected and confirmed cases. It is unlikely that DOHMH will require hospitals to report individual cases during the peak of the pandemic, and will likely focus its efforts on obtaining more detailed clinical and epidemiologic data on a sample of patients. In addition, DOHMH will prioritize epidemiologic investigations to inform public health and medical decision-making (e.g.. efficacy of rapid diagnostic kits, predictors of survival in ICU settings). DOHMH will work with NYS DOH to revise and/or refine the surge capacity template for HERDS, as needed.
- The Public Health Laboratory will work with hospital laboratories in the sentinel laboratory system to provide guidance on diagnostics and criteria for referral to PHL for more specific typing and subtyping of influenza viruses (See Section 3, Laboratory Diagnostics). If laboratory-testing capacity is limited (including limited availability or sensitivity of rapid diagnostic assays), the diagnosis of pandemic-related cases will need to be based on clinical criteria only.

Communications

ACTION STEPS TO BE TAKEN BY DOHMH

Depending on the urgency of the situation, BHPP will choose to use several methods for communicating with hospitals and other health care facilities:

- DOHMH health alerts and supporting materials will be sent regularly to all EP Coordinators to provide updates on the outbreak and any changes in clinical care guidance; GNYHA will also be asked to send the health alerts to members on their mailing list.
- Partner with GNYHA to set up regular meetings with hospitals that would address the current situation and ongoing health care response issues (including infection control measures, reporting/notification, and laboratory issues).

- Use the rapid automated call down notification system to facilitate urgent notification through DOHMH NYCMED if needed, and request that hospitals maintain up-to-date contact information on at least 6 senior hospital administrators from each hospital.
- A medical speakers' bureau will be available to offer on-site oral presentations to clinical staff at medical rounds.
- DOHMH Provider Access Line (PAL) will have public health nurse and physician staff available for consultation on public health or clinical issues.
- As warranted, BHPP will conduct teleconference calls to provide an immediate and flexible forum for information-sharing between the hospitals and DOHMH.
  - Teleconferences will be prioritized at the start of the pandemic in NYC when the initial cases are recognized to provide guidance on activation of emergency plans, as well as guidance on clinical management.
  - Targeted teleconferences may be conducted on special issues with hospital, primary care, and long term care representatives from infection control, infectious disease, and EDs. Topics may include:
    - Updates on the current situation, including surveillance data
    - Feedback from hospitals on response activities, surge capacity needs, patient management, and infection control
- As discussed in more detail in Section 9, Communications, DOHMH, in coordination with City Hall and other key agencies, will use public communication messages to inform NYC residents regarding the need to prioritize access to the City's health care system for those who need it most and those who are most likely to benefit. DOHMH will also provide clear guidance on who should seek hospital and/or primary care evaluation, and who should stay at home.
- The public information officers (PIOs) at NYC health care facilities will be asked to coordinate their media outreach with the NYC Joint Information Center that will be established at the NYC EOC. The communications office at DOHMH will actively outreach to PIOs to provide up-to-date information on the status of the pandemic in NYC, and current public health recommendations to help assure consistent messages to the public and media.

ACTION STEPS TO BE TAKEN BY HEALTH CARE FACILITIES[2]

- Designated staff from (at least) the specialties of emergency medicine, infectious disease, pediatrics, laboratory, nursing, internal medicine, family medicine and senior administration should be instructed to check their e-mail and DOHMH Web site daily for HAN alerts and updates.
- Participate in video conferences on HAN and onsite presentations by DOHMH Speakers Bureau, as staff resources allow.

- Keep senior administrators' contact information held by DOHMH updated.
- Designate staff to receive messages from HERDS.
- Designate staff to attend City-wide meetings about pandemic influenza.

Education and Training

- DOHMH Medical Speakers Bureau will provide education to health care facilities on:
  - The epidemiology of the novel pandemic influenza strain and its characteristics
  - Policies and procedures for the care of suspected patients
  - Infection control precaution recommendations
- DOHMH will also provide teaching slides, poster, and educational updates that may be used for hospitals to train and distribute to their staff.
- DOHMH will provide language-specific and reading-level-appropriate messages for visitors and patients.
- BHPP will also identify internal and external experts to speak at EP quarterly meetings or partnered GNYHA and/or NYS DOH meetings.
- Health care workers and health care institutions will be expected to check DOHMH's HAN and/or Web site at least daily for updated information.

Triage, Clinical Evaluation, and Admission Procedures

Action Steps to be Taken by DOHMH

DOHMH will work with NYS DOH in providing guidance to hospitals in managing patient surge and redirecting patients, if needed, to other hospitals, primary care centers, or their homes.

Action Steps to be Taken by Health Care Facilities

- Screening and isolation measures:
  - Hospitals and primary care centers will be asked to activate and maintain their screening and isolation protocols in the ED and waiting areas for the duration of the pandemic.
  - Hospitals that are treating a large volume of patients will need to set up and staff external triage stations and evaluation units. Some primary care centers have identified space in which they can triage larger volumes of patients. A telephone triage will be implemented if staffing allows.
  - EMS re-routing to other acute care settings due to full emergency rooms may serve as another trigger for further implementation of plans for non-traditional triage sites.

[2] Action steps to be taken by DOHMH and Hospitals refer to the implementation of plans and activities during the actual pandemic. Note that many of these recommendations are already in place and have been used in previous emergencies and tested during drills.

- Visual alerts regarding the need for patients with fever and respiratory symptoms to proceed directly to triage and adhere to respiratory and hand hygiene precautions will be developed in different languages. Hand hygiene materials and masks should be readily available in all waiting room areas.
  - Clinical staff will be needed to oversee the expansion of triage and screening in the ED and to conduct telephone triage to advise persons about the need to come to the hospital or primary care center or stay home.
  - Nursing or other clinical hotlines will play a critical role in helping to triage patients to the appropriate leave of care, including home care.
  - Security staff will need to control facility access.

Action Steps to be Taken by Primary Care Centers

- Primary care centers will need to coordinate with hospitals in their catchment areas regarding screening and isolation triage, referral of ambulatory pandemic-related persons, and continuation of essential medical services while providing consistent information to their patients, communities, and leaders, and referral of clients to appropriate social or mental health agencies.
- Primary care centers should consider having separate hours for seeing non-pandemic related patients.

Infection Control Precautions for Health Care Personnel

Action Steps to be Taken by DOHMH

- DOHMH will work with federal agencies and infectious disease/infection control communities to provide regular updates, particularly concerning those procedures and activities that are considered high risk for transmission.
- Monitor for hospital transmission of influenza infections, and report suspected nosocomial cases to DOHMH and NYS DOH. Guidance will be available to hospitals about the appropriate steps for investigating, managing, and controlling the outbreak.

Action Steps to be Taken by Health Care Facilities

- During the first pandemic wave, emphasis needs to be placed on the importance of health care workers strictly adhering to infection control practices and proper respiratory and hand precautions. Infection control, employee health, or other appropriate staff should provide training on and monitor the proper sequence for both donning and removing personal protective equipment. Training updates should be provided as necessary.
- Infection control measures, as well as recommendations regarding use of PPE among health care workers, patients, and visitors, will need to be made available by several mechanisms (will vary among health care facilities), including live demonstrations, posters, bulletins, and Web casts.

Occupational Health

Action Steps to be Taken by Health Care Facilities

- Health care facilities will be asked to:
  - Activate plans for the monitoring and managing staff with signs and symptoms of influenza.
  - Clarify time-off policies and procedures for health care providers who are asked to stay at home.
  - Reassign health care providers that are at high risk for complications of influenza to lower risk jobs that do not involve direct care of suspected pandemic patients.
  - Make psychosocial services available for staff; at minimum, provide a referral mechanism for staff to seek care.
- All health care workers with direct patient contact should be monitored daily for fever and respiratory symptoms. All staff with respiratory symptoms and/or fever greater than 100° F should be furloughed and clinically evaluated. Human influenza virus sheds for 5-7 days and infected health care workers will need to stay home for at least 7 days. This recommendation may need to be changed based on actual epidemiologic characteristics of the pandemic strain.
- Health care facilities will also be asked to complete HERDS surveys on employee health status when requested by NYS DOH.

Use and Administration of Vaccines and Antiviral Drugs

(see Section 7,Vaccine Management and Section 6, Antiviral Drugs)

- Health care facilities will need to adhere to DOHMH procedures and agreements for distributing antiviral drugs and pandemic influenza vaccine, when available, to designated priority groups.
- Hospitals will be asked to designate a point-of-contact for the receipt, distribution, and follow-up of both the vaccine and antiviral drugs.
- Recommendations for treatment (including treatment of health care workers) will be provided by DOHMH.

Surge Capacity

ACTION STEPS TO BE TAKEN BY DOHMH

- Once evidence of person-to-person spread of pandemic influenza is in NYC, DOHMH and NYS DOH will recommend that hospitals activate their Hospital Emergency Incident Command System (HEICS) and implement their bio-response plan.
- If indicated, guidance regarding changes in existing standards of care will be issued in coordination with NYS DOH.
- Any decisions regarding hospital closures or decreases in services will need to be discussed with NYS DOH.

- Monitor HERDS data and incoming calls to OEM Emergency Operation Command Center for material and supply needs. DOHMH will work through UHC to prioritize and resolve problems related to health care facilities. Difficult issues will be reported to DOHMH Incident Commander (IC).

NYS DOH has played a key role in addressing emergency preparedness in long-term care facilities. Through NYS DOH, long-term care facilities are required to:

- Submit a survey of their critical assets through HERDS.
- Register on the NYS DOH's Health Provider Network to receive health alerts.
- Review disease reporting expectations and guidelines related to seasonal human influenza, including outbreak control and use of vaccine and antiviral prophylaxis.

ACTION STEPS TO BE TAKEN BY HOSPITALS

- Hospitals will partially or fully activate their incident command system based on the demands placed on their beds and staff. Plans for rapid patient discharge, canceling elective surgery, and expanding staff shifts may need to be implemented in anticipation of steadily increasing numbers of suspect and/or confirmed case-patients seeking care at the hospital.
- EDs may need to establish separate waiting areas for persons with symptoms suggestive of influenza and, if necessary, a separate site for clinical evaluation and isolation.
- If bed capacity is limited, hospitals should implement plans for cohorting patients admitted with influenza. Those with confirmed or probable influenza diagnoses may be roomed together. Otherwise, pandemic related patients should ideally be placed on the same unit(s) or floor(s) to allow more focused monitoring of staff's infection control practices.
- If intensive care capacity is limited, steps may need to be taken to expand the ability to offer additional ventilatory supportive care, although at a lower standard than in non-emergency settings. If available, additional ventilators may be obtained through city or state stockpiles. Changing patient care ratios for intensive care nurses and respiratory therapists may be considered by allowing these specialists to supervise other staff members that can provide direct patient care. Just-in-time training will be needed to teach other staff (e.g., operating room nurses, medical students) how to provide this type of specialized care.

HERDS Activation

ACTION STEPS TO BE TAKEN BY DOHMH

- Working with NYS DOH, DOHMH will collect HERDS data and develop daily or more frequent reports on key indicators (e.g. beds, ventilators, available staff by shift and title, quantity of antiviral drugs, supply of personal protective equipment to maintain standard, droplet, and contact precautions).
- As the pandemic progresses, the UHC will be activated to address hospital-specific and City-wide shortages and determine how to best allocate limited resources.

- If in place, local caches that contain consumable and durable supplies (e.g., PPE, ventilators) will be used to meet shortages.

ACTION STEPS TO BE TAKEN BY HOSPITALS

Designate at least one staff member per shift to check HERDS and/or enter data.

Essential Health Care Staffing

Action Steps to be Taken by Health Care Facilities

FACILITY-BASED HEALTH CARE WORKERS

- Hospitals will need to identify additional staff to provide care to pandemic-related patients from specialty areas less affected by the pandemic (e.g., specialty surgery, quality assurance).
- Health care providers will be asked to activate their family preparedness plans.
- Administrators, infectious disease specialists, and infection control practitioners will be available to provide regular updates to staff about pandemic influenza in the form of face-to-face discussions, bulletins, and e-mails.
- Department heads and supervisors will put in place systems to identify ill staff, track absenteeism, and report to occupational health, infection control, or designated department.
- Plans to expand staff to provide routine medical and critical care should be reviewed with senior administrators and the legal department and be implemented when staffing needs exceed what is available.
- Information from the NYS DOH regarding relaxation of hospital regulations will be communicated directly or through DOHMH.
- Staff that has had documented pandemic influenza and recovered should be prioritized to provide direct patient care once they return to work.

HEALTH CARE PROVIDERS FROM NETWORK-AFFILIATED FACILITIES

- Many hospitals will have pre-credentialed and privileged health care providers from their network-affiliated facilities so that additional staff may be available (see Appendix 5G).
- Sources of affiliated staff could be from non-patient care jobs in the hospital, primary care clinics, outpatient surgical centers, wound care centers, and hospital-based EMS agencies.
- This staff may be used to conduct telephone triage, work in the additional isolation and screening space, provide basic medical care, or secure entrances.

HEALTH CARE PROVIDERS FROM OTHER HEALTH CARE SETTINGS

- During pandemic influenza, it is unlikely that health care providers from other hospitals will be available.

- Individuals from ESAR-VHP and the Medical Reserve Corps may be available, especially later in the pandemic when many individuals will have developed immunity to the pandemic strain. These may include retired providers, and/or providers now working in non-acute or primary care settings (e.g., academia, specialty clinics).
  - In addition, residents and interns may be asked to assume more direct patient care roles, and students from medical, nursing, dental, and respiratory therapy schools could perform certain functions with oversight from their licensed equivalents.
  - If permitted by the relevant regulatory agencies, family members or significant others may also have to provide basic supportive care (e.g., feeding, washing, toileting) to hospitalized case-patients to decrease the burden on nursing staff. Those family members that have had documented pandemic influenza and recovered, should be prioritized to provide direct patient care.

Action Steps to be Taken by Primary Care Centers

- Based on pre-existing emergency preparedness plans, enhance capacity in triage, treatment, and waiting areas for persons with febrile and/or respiratory illness (e.g. expanding hours of operation).
- Consult DOHMH HAN or DOHMH Web site at least daily and comply with requests for information.

Action Steps to be Taken by Emergency Medical Services

- FDNY-EMS will work with hospitals to place them on diversion
- REMSCO will need to:
  - Work with EMS agencies to identify resources that may be (or become) limited during a pandemic.
  - Monitor and identify critical gaps in ability to provide emergency medical services.
  - Communicate with FDNY-EMS, NYC OEM, and DOHMH about staffing, supply, and PPE needs.
  - Coordinate requests for hospital closure, diversion, or decreases in services with NYS DOH.

Suggested Action Steps to be Taken by Home Care Agencies

Potential options for home care agencies to handle the increased demand on their services include:

- Implement surge plan; work with all available resources to provide necessary services to homebound patients in coordination with the patient's family and provider.
- Maintain frequent contact to assess patient needs and the continued availability of backup care giver support, as the health of these individuals may change rapidly and unpredictably.

- Conduct frequent monitoring of patients and staff for signs and symptoms of influenza
- For patients with suspected influenza, assess for potential isolation and use of infection control precautions.
- Report summary information on influenza cases, patient census, staffing, and ability to provide care in accordance with DOHMH and NYS DOH requests.
- Work with DOHMH and NYC OEM to secure volunteers, if necessary.
- Alert OEM health desk regarding any emergency resource needs.
- Provide home care instructions based on templates developed by DOHMH (see Appendix 5G).

Security (see page 21 in this Section)

Action Steps to be Taken by Health Care Facilities

- Limit facility access.
- Define essential and non-essential visitors and determine how security personnel may be used to enforce and maintain access controls, if needed.
  - Define methods for verifying identification of staff and visitors.
    - Define essential and non-essential visitors with regard to the hospital and the population served, including protocols for limiting non-essential visitors
  - Enforce hospital access by hospital security services.
    - Local NYPD precincts should be informed of the hospital security plans.
    - Indications and roles for providing assistance should be worked out ahead of time.
    - Hospitals and other health care facilities should anticipate that the NYPD might be overburdened during a pandemic and therefore will have limited ability to assist with security services.
- Consider plans for having staff act as additional security personnel. This may be required given the increased demand for services, the possibility of long wait times for care, and because triage or treatment decisions may not be in agreement with patient or family expectations (e.g., if antiviral use is limited to those in priority groups).

Mortuary Issues

- OCME will be the lead agency during a mass fatality management operation
- Mass fatality management operations at any incident, accidental or intentional, will be conducted in strict accordance with NYPD and OCME investigational policies and procedures. Major OCME action steps to be taken include:

- Identify, track, and if needed, assist with the management of remains among patients who die at home.
- Assist hospitals and long-term care facilities with the management of remains if the funeral system is overwhelmed and unable to collect bodies in a timely fashion.
- Supply refrigerated trucks as needed to enhance storage capacity.
- In coordination with DOHMH (including the Vital Registrar), NYS DOH, OEM, and GNYHA should develop a system to track the location and disposition of remains kept in refrigerated storage.
- Conduct standard OCME mass fatality management operations, including:
  - Positively identify victims.
  - Determine the cause and manner of death of victims.
  - Collect and preserve postmortem and antemortem evidence required for the determination of the cause and manner of death and identification of the deceased.
  - Mitigate any public health hazards.
  - Promptly release remains to the next-of-kin, whenever possible.
- Hospitals will be asked to track number of deaths and to maintain supplies for their morgues and coordinate storage with OCME.

Special Populations

Action Steps to be Taken by DOHMH

- Ensure that appropriate treatment/use guidelines (including surge capacity) are age-appropriate
- Provide links to appropriate resources on DOHMH Web site
- Develop training /protocols as necessary
- Purchase equipment specific for particular populations
- Educational materials for home care, primary care centers, hospitals, and other health care facilities should be multilingual and for varying literacy levels
- Monitor sources for new materials and share with provider community and community-based organizations
- Incorporate issues for these populations into city-wide exercises
- Conduct exercises/drills specific to these populations
- Provide guidance/guidelines on these issues to the health care community

Action Steps to be Taken by Health Care Facilities

- Purchase age-appropriate supplies/equipment
- Incorporate age-specific protocols into clinical/operational guidelines
- Provide training to staff
- Obtain materials that are in appropriate languages for the health care facilities clientele
- Train staff on specific issues/points that require additional attention
- Incorporate educational points/modules into existing emergency preparedness curricula
- Conduct drills/exercises
- Incorporate plans for these populations into IMS activities/plans/operations
- Examine special issues — such as patient tracking and provision of medicine/treatment regimen — and ensure these issues come into exercises

PEDIATRICS

Previous pandemics have had a high attack rate in children and there is a potential shortage of specialized care in pediatrics. DOHMH has sponsored a pediatric work group to prepare a guidance document addressing the medical, pharmaceutical, nutritional, and psychosocial care of children in pediatric and non-pediatric hospitals during all-hazards emergencies. The materials are being finalized and will serve as a guidance document during a pandemic. The Pediatric Disaster Toolkit may be found at www.nyc.gov/health/bhpp. Pediatric-based drills are currently being developed.

Hospitals will be asked to include in their biologic response plans a section about infection control precautions for children, treatment and equipment modifications, dietary needs, and psychosocial issues. HERDS will have the ability to collect information electronically about pediatric and neonatal bed availability by bed type, needed materials, equipments supplies, and pharmaceuticals. The UHC will help prioritize requests and distribute supplies, whenever possible.

The pediatric bed capacity in NYC includes:

NYC hospitals with pediatric services	45
NYC hospitals without pediatric beds	22

Among the 45 hospitals with pediatric services

NYC hospitals with PICU beds	23
Designated pediatric trauma centers	2
Staffed pediatric ICU beds	172
Staffed pediatric med/surgical beds	1019

Homebound Individuals

Of the homebound population, 3 out of 4 are under the care of a large home care organization that has begun preparing and drilling their plans for pandemic influenza. Ongoing collaboration is underway to address the ability to continue and enhance home care services during a pandemic.

- DOHMH will provide home care guidelines for caretakers and case-patients to the Visiting Nursing Service (VNS) of NYC and other home care agencies. The guidelines will include

07.06

triggers for hospitalization and infection control measures for the household. They will also be available for other home care agencies

- DOHMH will also provide to VNS (and other home care agencies) guidelines for their employees that make home visits. These guidelines will be developed by DOHMH, shared with the physicians of VNS, and will include:
  - Evaluation of suspect or known case-patients
  - Provision of laboratory testing, if indicated
  - Evaluation for antiviral drugs
- VNS is preparing its own surge capacity and occupational plans and will share them with DOHMH.

Undocumented Persons

- Many undocumented persons will have barriers to access to care, including:
  - Lack of English language skills
  - Fear of deportation
  - Cultural differences surrounding illness
  - Disconnected from the health care system
- DOHMH is creating multilingual health-related materials and the materials will be adjusted to varying reading levels. These materials will be shared with hospitals and community health centers. Other mechanisms for distribution may include local newspapers, billboards, buses, subways, telephone kiosks, and check-cashing facilities.
- Persons seeking health care should be reassured that providing confidential information (e.g., immigration status, social security number) is not necessary.
  - DOHMH will continue to work with community health centers to raise awareness about pandemic influenza and will reach out to medical providers in targeted communities where large socioeconomic disparities exist.
  - Community health centers will play a lead role in providing health information and home care instruction to clients, and building on-going liaisons with community-based organizations.

PRISONS

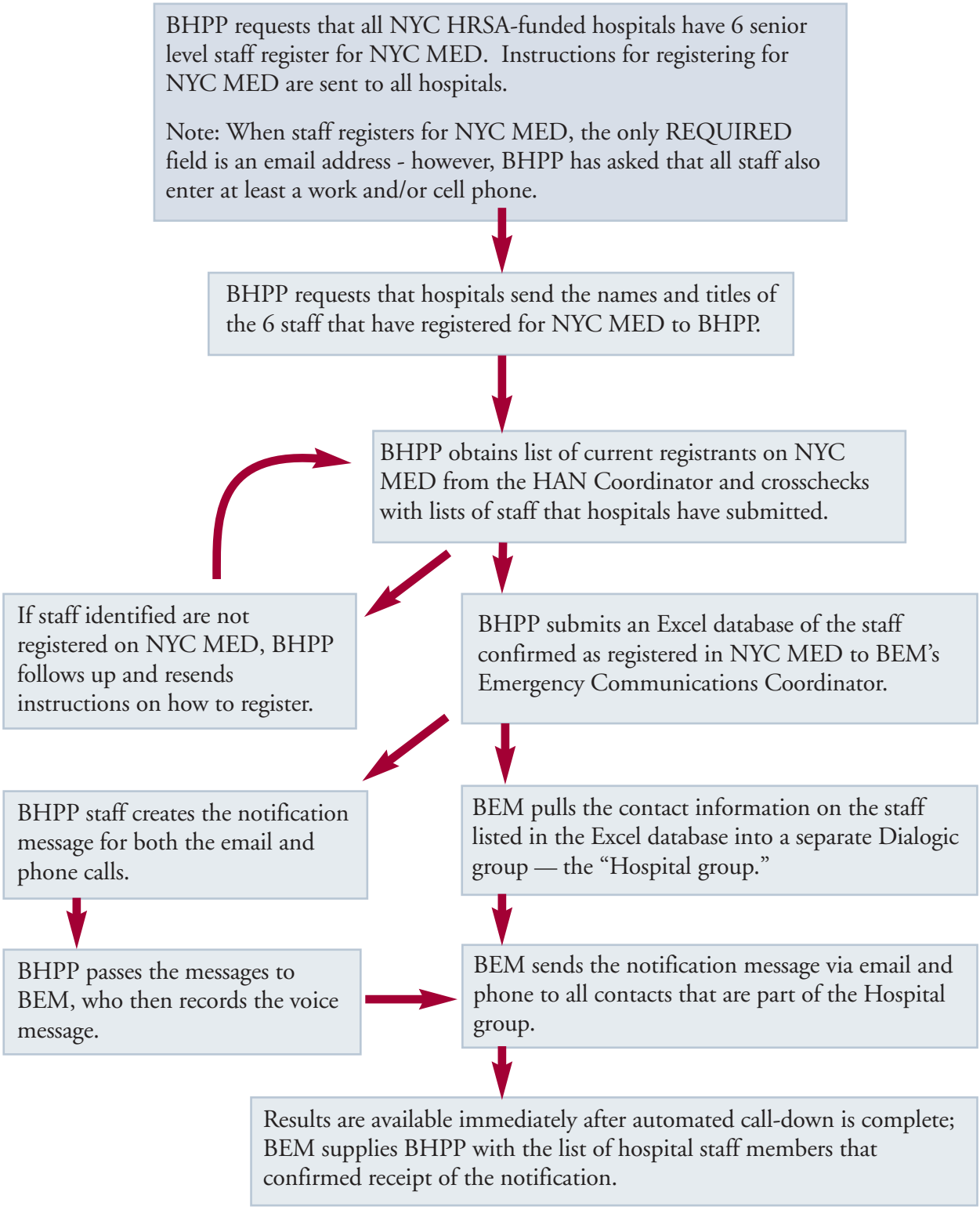
Much of what is described for hospitals and primary care centers applies to infirmaries and health centers in prisons. More work is needed in this area.

Action steps to be taken by prisons

- Establish a protocol for recognition of pandemic influenza in inmates.
- Institute an occupational health plan.
- Maintain infection control and provide access to PPE.
- Create a surge capacity plan for increasing staff, beds, equipment, and supplies.
- Provide education to staff and inmates about pandemic influenza.

Other vulnerable and hard-to-reach populations still need to be addressed in more detail.

Sequence of Steps Taken by BHPP to Develop Automated Notification System for Senior Level NYC Hospital Staff



NYC DOHMH Guidance Document for Development of Protocols for Managing Patients Presenting to EDs and Clinics With Potentially Communicable Diseases of Public Health Concern

Table of Contents

Section I.

Triage protocol for prompt recognition and isolation of a single patient presenting to the Emergency Department (ED) or Clinic with fever/rash or fever/respiratory illness suggestive of a communicable disease of public health concern (e.g., measles, meningococcal disease, SARS, avian influenza, smallpox, or plague)

Introduction 149

Background for the Guidance Document 150

How to Use this Guidance Document 150

Working With this Guidance Document

Single Patient Entering the ED or Clinics With Fever/Rash or Fever/Respiratory Illness 151

1. Initial Patient Encounter 151

2. Infection Control Measures on Arrival 154

3. Notification and Evaluation 157

4. Identification and Management of Exposed Persons in the ED/clinic 158

Table. Examples of Communicable Diseases of Public Health Concern 160

Generic Notification Job Action Sheets 161

Sample Contact Tracing Collection Form 163

Section II.

[NOTE: This section of the guidance document is currently being developed and will be shared at a later date.]
Surge triage protocol for prompt recognition and isolation in the event of an influx of patients presenting to the ED/Clinic with a communicable disease of public health significance that is suspected or confirmed (e.g., an outbreak of SARS or pandemic influenza, or a bioterrorist attack involving plague or smallpox).

Introduction

The impact on hospitals affected by the 2003 outbreak of Severe Acute Respiratory Syndrome (SARS) highlighted the critical importance of rapid recognition and isolation of patients with more highly communicable diseases to prevent nosocomial spread to other patients, staff and visitors.

Although New York City (NYC) was spared during the international outbreak of SARS, recent delays in identifying and isolating patients with measles in NYC emergency departments and clinics demonstrate the need to ensure that effective measures are routinely in place for triaging potential contagious patients with fever and respiratory or rash illnesses.

Because emergency departments (ED) and clinics are important and vulnerable points of entry into a hospital, effective strategies for triage applied in these settings will have great impact on minimizing nosocomial transmission within and beyond the ED and clinics. Also, expertise gained in planning for ED/Clinic communicable disease triage will be useful in identifying and controlling infectious diseases in other clinical settings.

Background for this Guidance Document

The following guidance document has been prepared to assist hospitals in developing or updating their protocols for screening and isolation for potentially communicable diseases of public health concern (i.e., diseases with greater likelihood of spread to others, and with higher likelihoods of more severe morbidity or mortality; See Appendix A: *Examples of Potentially Communicable Disease of Public Health Concern*) in their EDs and clinics. Separate guidance is provided for the following two situations:

- A single patient presenting to the ED/clinic with fever/rash or fever/respiratory symptoms suggestive of a communicable disease with public health significance (e.g., measles, meningococcal disease, SARS, avian influenza, smallpox, or plague)
- An influx of patients coming to the ED/clinic after an outbreak of a communicable disease of public health significance is suspected or confirmed (e.g., SARS, pandemic influenza, possible bioterrorist attack involving plague or smallpox)

  [NOTE: This section of the guidance document is currently being developed and will be shared at a later date.]

How to Use this Guidance Document

This guidance document is meant to serve as a standardized template format for hospitals to customize their institution's ED/Clinic screening/isolation protocols and should be considered a living document (i.e., one that evolves as needed to fit the needs and culture of each hospital). The primary objectives of this guidance are to:

- Enhance early recognition of a patient who may have a communicable disease of public health concern upon arrival at the hospital ED or clinic
- Prompt the rapid institution of infection control measures to minimize potential transmission to staff, patients and visitors.
- Provide a template from which hospitals may operationalize their plans

The NYC DOHMH recognizes that there are limitations to these guidelines that may make it difficult to implement routinely. Factors that may limit the ability to adhere to this guidance include:

- During the winter respiratory viral season, when larger numbers of patients present with fever and respiratory symptoms, it may be more difficult to recognize patients who may present with

nonspecific, prodromal symptoms of communicable diseases that are of greater public health concern (e.g., index patient with SARS presenting at the peak of the winter influenza season)

- Limitations in hospital surge capacity to handle larger numbers of potentially contagious patients (e.g., limited airborne infection isolation rooms [AIIRs], or small waiting rooms that do not easily allow hospitals or clinics to separate patients with fever and cough or rash symptoms)

Working with the Guidance Document:

The first part of this guidance document is composed of 4 sections:

(1) Initial Patient Encounter

(2.) Infection Control Measures on Arrival

(3) Notification

(4) Identification and Management of Exposed Persons in ED/Clinics

Given the potential implications of delayed recognition of a patient with a more highly communicable disease, this guidance document provides a standardized format for hospitals to use for their triage protocols for infectious diseases in their ED and clinics. Regular trainings and drills for frontline staff (triage, reception, security as well as nursing and medical staff) on the measures outlined in this protocol, including notification procedures, are essential to ensure compliance with these measures.

In each section, the DOHMH provides suggested text and/or examples. Sections that the DOHMH considers critical to an effective triage protocol for potentially contagious patients are highlighted in bold text. If appropriate for your facility, the text and/or examples can be incorporated directly into your hospital protocol. If needed, space is provided after each section to allow hospitals to add information from their own facility-specific plans.

NYC DOHMH recommends that each hospital convene a working group composed of staff from key hospital departments to review and sign off on the finalized hospital screening/isolation protocol. Suggested members for your hospital working group would include Emergency Department, Infection Control/ Infectious Disease, Hospital Administration, Security, Housekeeping, and/or Facility Engineering.

Hospitals are encouraged to use standard terminology and approaches that are consistent with recommendations by the Centers for Disease Control and Prevention (CDC) and their Healthcare Infection Control Practices Advisory Committee (HICPAC). A copy of the Draft Guidelines for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings from HICPAC is electronically attached.

Single Patient Entering the ED or Clinics with Fever/Rash or Fever/Respiratory Illness

Initial Patient Encounter

Effective screening for and isolation of potentially infectious patients, especially those who may be at risk for airborne or droplet transmission of infectious agents to others, is critical to ensure prompt recognition and isolation as soon as possible after patient arrival. The following measures are recommended to be routinely in place to help decrease transmission of infectious agents to staff, visitors and other patients:

(Note: Sections A and B below should be considered standard measures for all EDs and clinic to routinely have in place.)

A. Place surgical masks and alcohol hand hygiene products as close as possible to all entranceways to ED/Clinics so that they are available to all patients and visitors coming to the hospital/clinic.

Boxes of tissues, waste baskets, and alcohol-based hand hygiene products should be placed throughout the ED/clinic waiting areas and examination rooms.

Signage should be placed next to these items and be clearly visible. In addition:

- Signage should have a simple, clear message in large font stating that all patients who come in with fever and respiratory symptoms or rash should wear a mask and perform hand hygiene with the alcohol hand hygiene products available at the entranceway. They should then proceed directly to the registration desk and/or triage nurse and alert staff to their symptoms.
- Signage should show patients how to wear the mask correctly and how to use the alcohol hand hygiene products.
- Other options: Show a streaming video on TV/media equipment in ED/clinic waiting areas that demonstrate proper methods for hand hygiene, usage of surgical mask, and how patients should alert ED/clinic staff if they have fever and respiratory or rash symptoms. "Cover Your Cough" posters in various languages can be obtained from the DOHMH website: http://www.nyc.gov/html/doh/html/cd/cd-cough.html.

(NOTE: List other locations in hospital where signage, masks, and alcohol hand gels/wipes will be placed):

_____

_____

_____

- **Signage should be in all languages that are appropriate for your patient community.**

  (NOTE: List languages that will be used for signage at your facility):

_____

_____

_____

Which title(s) in your hospital will be responsible for posting the signage and determining the location of the signage/alcohol-based hygiene products/masks?

_____

_____

_____

B. Triage/screening staff should have a reminder system that will prompt them to perform communicable disease screening for respiratory or rash communicable diseases of potential public health concern on ALL patients who present or self-identify with a fever. Screening should include asking all patients with fever about the presence of respiratory symptoms (cough or shortness of breath) and rash symptoms, as well as epidemiologic risk factors, such as recent travel.

- The following questions should be asked of all patients at the initial screening:
  - Have you had fever (elevated temperatures) in the past two weeks?
  - Have you had cough in the past two weeks?
  - Have you had shortness of breath or difficulty breathing in the past two weeks?
- **For patients reporting fever and respiratory/rash symptoms:**
  - Have you traveled outside the United States or had close contact with someone who has recently traveled outside the United States, in the past two weeks? If yes, ask where: _____
  - Are you a healthcare worker (e.g., nurse, physician, ancillary services personnel, allied health services personnel, hospital volunteer) who has had a recent exposure to an individual with a highly communicable disease or unexplained, severe febrile respiratory or rash disease?
  - Do any of the people who you have close contact with at home, work or your friends have the same symptoms?
    (Note: Consider incorporating the above questions into your hospital's triage screening sheet or keeping as a separate but written document.)
- **A positive communicable disease triage screen** is considered for any patient who meets one of the 2 following criteria:
  - Any patient with fever and rash.
  - Any patient with fever and respiratory symptoms who reports any of the following epidemiologic risk factors:
    - Travel to an area that is currently experiencing or is at risk for a communicable disease outbreak of public health concern (e.g., country currently experiencing an outbreak of avian influenza, country at higher risk for re-emergence of SARS, such as mainland China)
      [NOTE: Since triage/screening staff may not be aware of which countries are at risk, infection control practitioners (ICPs) should be instructed to consult the DOHMH website for recent health alerts: http://www.nyc.gov/html/doh/ or the CDC website at http://www.cdc.gov/travel/. ICPs may want to check for this information on a daily or weekly basis so that they can be posted on a nearby ED/clinic bulletin board to update the ED/clinic staff.]
    - Contact with someone who is also ill and traveled to an area that is to known to be or is at risk for a communicable disease outbreak of public health concern as outlined above
    - Healthcare worker (e.g., nurse, physician, ancillary services personnel, allied health services personnel, hospital volunteer) with a recent exposure to a potential communicable disease of public health concern

- Anyone who reports being part of a cluster of two or more persons with a similar febrile, respiratory illness (e.g., household, work or social cluster).

C. Patients who meet either of the criteria above for a positive communicable disease triage screen should be prioritized for individual placement in an AIIR or private room pending clinical evaluation. Both patient and triage staff should perform hand hygiene.

Hospitals may consider any of the following methods to help prompt staff to routinely use this communicable disease triage screening tool:

- A poster or desk chart that is placed in a location that is easily seen by the triage or registration staff.
- Including the communicable disease triage screening questions on all paper-based registration or triage forms, or a sticker that is placed on all forms for patients who report fever.
- In hospitals with computerized ED or clinic registration systems, adding a computer prompt that asks all patients about fever symptoms. For patients that report fever, the communicable disease triage screening tool will automatically pop-up on the computer screen.

(NOTE: List methods that your hospital uses or will use to ensure that triage/screening staff queries all patients regarding fever and respiratory/rash symptoms on initial encounter.)

1. _____

2. _____

2. Infection Control Measures on Arrival

When a patient with a positive communicable disease triage screen is identified, prompt implementation of Standard Precautions, respiratory hygiene/cough etiquette, and appropriate isolation precautions based on the suspected infection will decreases the risk of transmission to others.

A. The patient should be given a surgical mask immediately, if not already wearing one. The patient should be shown how to wear the mask and instructed to wear this mask at all times. The patient should keep the mask on at all times while in the isolation room (unless it is an AIIR) in order to minimize contamination of the room. The patient should be instructed on how to perform hand hygiene after coughing or other contact with respiratory secretions or their rash.

[NOTE: The following considerations should be made for patients who may have difficulty breathing with a mask on, such as allowing a looser fit of the surgical mask (e.g., surgical masks with ties) or providing them with their own supply of tissues. Strict hand hygiene should be reinforced for these individuals.]

Surgical masks may not be feasible for young children with a positive communicable disease triage screen to wear. In these situations, the child and accompanying adults should be seen as quickly as possible by the triage staff and placed in an appropriate isolation room or an area in the waiting room in a way that allows at least 3 feet separation from other persons. The parents should be instructed to wash their hands and their children's hands with soap and water, or

alcohol hand hygiene products frequently, especially after the child coughs, sneezes or has other direct contact with oral secretions.

B. Patients need to be separated from others in an isolation room or in the waiting area pending medical evaluation.

Depending on the space resources available in the hospital ED or clinic, isolation options in decreasing order of preference include:

- Airborne Infection Isolation Room (AIIR): negative pressure isolation rooms with a minimum of 6-12 air exchanges per hour and direct exhaust to the outside which is located more than 25 feet from an air intake and from where people may pass (if air cannot be exhausted directly to the outside more than 25 feet from an air intake and from where people may pass, then air should be filtered through an appropriately installed and maintained HEPA filter). These rooms should be tested monthly (and daily when in use) to verify negative airflow.
- Pre-identified enclosed private room(s): an examination room with a door that is kept closed to the hallway. (Self-closing doors are preferable). **(NOTE: These rooms should be tested by Facility Engineering beforehand to ensure that the rooms are exhausted appropriately (i.e., not positive pressure and do not share airflow with other rooms.)**
- Pre-identified examination area, even if not individual rooms, to cohort patients with similar symptoms. Patients should be separated from each others by at least three feet (more if possible).
- If an AIIR, private room or pre-identified examination area is not available, the patient should be asked to stay in an area of the waiting room that allows at least three feet of separation between the patient and others in the waiting area. The patients should be instructed to keep the surgical mask on at all times while in the waiting area and discouraged from walking around the ED/hospital.
- Portable isolation chambers can also be considered as an alternative if neither AIIR nor private rooms are available.
  [NOTE: List options that may be available in your hospital to separate or isolate patients with a positive communicable disease triage screen]

  _____

  _____

  _____

If patients are placed in an AIIR or isolation room, appropriate infection control signage based upon the route of transmission for the suspected disease of concern and/or Hospital Infection Control policies should be posted outside the patient's isolation room signifying the need for precautions until a medical evaluation determines that the patient does not have a contagious disease requiring isolation. At a minimum, droplet and contact precautions should be used for all patients with a positive communicable disease triage screen.

C. The management of PPE disposal should be consistent with your hospital's infection control policies.

- All appropriate PPE should be stocked outside the door to the patient's AIIR or isolation room. Appropriate PPE for select pathogens can be found at the CDC website: http://www.cdc.gov/ncidod/hip/ISOLAT/ISOLAT.HTM
- Signage on the proper method of donning and removing PPE should be prominently displayed outside or nearby all AIIRs in the ED and clinics. Alcohol hand hygiene products or a sink with hot water, soap and paper towels should be available.
- If available, patients with a positive communicable disease triage screen should be placed in an AIIR with an anteroom that has a sink, so that persons leaving the room can dispose of PPE immediately and wash their hands before exiting to the hallway.
- **In the absence of an anteroom, gowns and gloves should be removed inside the patient's room and discarded in a waste receptacle just inside the room by the door. Hand hygiene products should be placed right outside the door so that staff can use immediately after removal of respiratory protection equipment. Doing this prevents staff from wearing the same gloves and gowns after leaving the isolation room and contaminating other areas of the ED/clinic.** Signage should be placed to remind staff of this protocol. A separate waste receptacle should be place *immediately outside* the suspect case-patient's room for disposal of respirators.

D. Limit as much as possible the number of persons who enter the patient's room, as well as the traffic in and out. Entry should be limited to necessary hospital staff and public health personnel. Visitors should be excluded, as much as possible, from entering the patient's room.

(NOTE: Please add any additional information regarding how your hospital will manage individuals who accompany the patients with a positive communicable disease triage screen while awaiting clinical evaluation of the patient.)

_____

_____

_____

After use, all personal protective equipment should be placed into a plastic biohazard bag and left in the suspect case-patient's room (gowns and gloves) or outside of the room (respirators)-ideally, in the anteroom, if an isolation room with anteroom is available. If positive air pressure respirators (PAPR) are used, the PAPR should be cleaned and disinfected prior to entering another patient's room.

NOTE: PAPRs should not be considered a higher level of protection and their use should be limited to men with facial hair or for those individuals who are have documented poor fit for N95 respirators.

_____

_____

_____

E. As much as possible, when contact precautions are indicated, dedicated patient care equipment (e.g., blood pressure cuffs and stethoscopes) should be assigned to and left in the patient's room.

If equipment must be used on other patients (e.g., portable X-ray machine), meticulously clean and disinfect the equipment with EPA-registered hospital disinfectants (e.g., quaternary ammonium compounds) or sodium hypochlorite (1:10 dilution of household bleach).

F. Use disposable items whenever possible:

- Dispose of all non-sharps waste in biohazard bags for disposal or transport for incineration or other approved disposal method.
- All used laundry and linens should be handled carefully to prevent aerosolization or direct contact with potentially infectious material. **Anyone directly handling the suspect case-patient's linen or laundry should wear appropriate PPE.**

3. Notification and Evaluation

Once triage staff has identified a patient with a positive communicable disease triage screen, prompt notification of appropriate staff should be instituted to ensure rapid evaluation of the patient for a potentially communicable disease of public health concern. It is crucial to identify key staff ahead of time to ensure notification occurs rapidly.

[NOTE: The following notification format should be revised for your own hospital. Generic Job Action Sheets for this notification section are included in the Appendix. Hospitals should develop additional Job Action Sheets as needed: Housekeeping, Security.]

A. Triage/screening staff (or person who has initial encounter with the patient and conducts communicable disease triage screening) notifies ED Supervisor (i.e., person in leadership position in ED) who ensures that the appropriate infection control measures have been put into place.

Title of ED Supervisor: (Business Hours): _____

Title of ED Supervisor: (After-Business Hours): _____

- ED Supervisor designates an ED MD to conduct the initial patient evaluation. The ED physician should don the appropriate PPE outside the patients AIIR/isolation room to examine the patient and determine if patient is at risk for a communicable disease of public health concern.

_____

_____

- If ED Physician feels that the patient potentially has a communicable disease of public health concern, the ED Physician or his/her designee will notify the Infectious Disease Consult/Infection Control Practitioners, Hospital Administrator On-Duty, Nursing Head, and Housekeeping.

  Contact Information for Infectious Disease Consult
  (Business Hours): _____
  (After-Business Hours): _____

  Contact Information for Infectious Disease Consult
  (Business Hours): _____
  (After-Business Hours): _____

  Contact Information for Infectious Disease Consult
  (Business Hours): _____
  (After-Business Hours): _____

  Contact Information for Infectious Disease Consult
  (Business Hours): _____
  (After-Business Hours): _____

Infection Control or the ED Physician will notify the NYC DOHMH. NYC DOHMH will provide guidance on the clinical and laboratory assessment of the patient, management of ED or clinic contacts, and/or prophylaxis/treatment. Depending on the situation, a medical epidemiologist from the DOHMH may need to come on site to coordinate the case and contact investigation with the hospital staff.

Contact Information for NYC DOHMH

(Business Hours): Provider Access Line: 1-866-NYC-DOH1 (692-3641)

(After-Business Hours): POISON Control Center: 1-800-222-2222

4. Identification and Management of Exposed Persons in the ED/clinic

As soon as it is determined that a patient has a suspected or confirmed communicable disease of public health concern, it will be essential to identify all contacts in the ED or clinic (including other patients and visitors in the waiting area during the time the patient was there). This should be done in coordination with the NYC DOHMH. (NOTE: The NYC DOHMH will be responsible for identifying close contacts outside of the hospital or clinic setting, such as home, social and workplace contacts).

- If not already done, the Infection Control Practitioner or his/her designee notifies the NYC DOHMH. Contact Information for NYC DOHMH:

  Business Hours: Provider Access Line: 1-866-NYC-DOH1 (692-3641)

  After-Business Hours: POISON Control Center: 1-800-222-2222

Determination of the need for identification, monitoring and preventive care for potential contacts will be based on the epidemiology of the suspected or confirmed communicable disease and its probable mode of transmission.

- The following measures may need to be taken after consultation with the NYC DOHMH regarding the risk of transmission to contacts in the ED/clinic. The Infection Control Practitioner or his/her designee will create a line list of patients and staff who were exposed to the index case prior to the index case being placed in isolation. The line list should include the following information on all contacts: full name, address, telephone contacts (home, work, cell, email) and description of type of contact (e.g., shared waiting room). If the infectious agent involves a vaccine preventable agent (e.g., measles, chickenpox), a column on the line list should include the vaccine status for the agent of concern. (A sample Contact Identification Form for Exposure to Communicable Disease of Public Health Concern is included on page 18.)
  - Consistent with your hospital's policy, the number of persons who enter the patient's room should be limited, as well as the traffic in and out. Entry should be limited to necessary hospital staff and public health personnel. Visitors should be excluded from entering the patient's room.
  - A log should be kept to track the names and contact information for all persons who enter the room, in the event that follow up is needed.
  - Individuals who accompanied the patient to the hospital should be quickly evaluated for signs/symptoms, counseled, asked for contact information, and asked to stay in case further evaluation suggests a communicable disease of increased public health concern.
- For a suspected communicable disease of more significant public health concern, such as smallpox, during the initial consultation with the DOHMH, the DOHMH may request that the hospital detain ED and clinic contacts in the hospital until DOHMH personnel arrive to interview them. A detention order may be issued, if needed, for non-compliant contacts:
  - A location in the hospital should be pre-identified that can be used to hold all ED or clinic contacts that are awaiting evaluation by the DOHMH. [NOTE: **Please note location in your hospital that may be used to hold ED or clinic contacts of a suspected case of a communicable disease of more significant public health concern pending interview by the DOHMH**]

    Location: _____
  - Infection Control Personnel or Mental Health personnel should be available to explain the situation to contacts. If possible, patient-appropriate literature on the infectious agent of concern should be made available to all contacts. Fact sheets for most communicable diseases of potential public health concern are available on the NYC DOHMH or CDC websites:

    NYC DOHMH www.nyc.gov/health

    CDC www.cdc.gov

- For contacts that refuse to stay, the Infection Control staff should collect information on how to reach the person (including address and home, work and cell phones or beepers). Inform the contact that DOHMH will be getting in contact with them and it is extremely important that they respond.
- The DOHMH may issue a Commissioner's Order that permits the hospital to prevent the contact or suspected contact from leaving as per Section 11.55 of the NYC Health Code. While this is being faxed over to Hospital, it may be necessary for the Hospital to notify hospital Security to detain the contact.

TABLE : Examples of Communicable Diseases of Public Health Concern: Diseases with greater likelihood to spread to others, and with higher likelihood of more severe morbidity or mortality (Taken from HICPAC Guideline for Isolation Precautions).

	Potential Pathogens: The organisms listed in this column are not intended to represent the complete, or even most likely, diagnoses, but rather possible etiologic agents that require additional precautions beyond Standard Precautions until they can be ruled out	**Empiric Precautions:** Infection control professionals should modify or adapt this table according to local conditions.
Rash or Exanthems, generalized, etiology unknown		
Petechial/ecchymotic with fever	*Neisseria meningitidis*	Droplet for first 24 hours of antimicrobial therapy
Vesicular	Varicella, smallpox, or vaccinia virus	Airborne infection isolation plus Contact; Contact if vaccinia
Maculopapular with cough, coryza and fever	Rubeola (measles) virus	Airborne infection isolation
Respiratory Infections		
Cough/fever/upper lobe pulmonary infiltrate in HIV-negative patient or a patient at low risk for HIV	*M. tuberculosis*; SARS	Airborne infection isolation; add Contact plus eye protection if history of SARS exposure; travel
Cough/fever/pulmonary infiltrate in any lung location in an HIV-infected patient or a patient at high risk for HIV infection	*M. tuberculosis*	Airborne infection isolation
Respiratory infections, particularly bronchiolitis and pneumonia, in infants and young children	Influenza virus	Contact plus Droplet; Droplet may be discontinued influenza has been ruled out

Job Action Sheet

(Triage Staff) _____

Responsible Staff:_____

- Perform Communicable Disease Triage Screen on patients who self-identify as having fever or who have fever on triage exam.
  - Have you had fever (elevated temperatures) in the past two weeks?
  - Have you had cough in the past two weeks?
  - Have you had shortness of breath or difficulty breathing in the past two weeks?
  - Have you had a rash or unusual skin lesions in the past two weeks?

  For patients reporting fever and respiratory/rash symptoms:

  - Have you traveled outside the United States or had close contact with someone who has recently traveled outside the United States, in the past two weeks? If yes, ask where: _____
  - Are you a healthcare worker (e.g., nurse, physician, ancillary services personnel, allied health services personnel, hospital volunteer) who has had a recent exposure to an individual with a highly communicable disease or unexplained, severe febrile respiratory or rash disease?
  - Do any of the people who you have close contact with at home, work or your friends have the same symptoms?

Based on the responses to these questions, a **positive communicable disease triage screen** is considered for any patient who meets one of the following two criteria:

1. Any patient with fever and rash

2. Any patient with fever and respiratory symptoms who reports any of the following epidemiologic risk factors:

- Travel to an area that is known to be currently experiencing or at risk for a communicable disease outbreak of public health concern (e.g., country currently experiencing an outbreak of avian influenza, country at higher risk for re-emergence of SARS, such as China) *[NOTE: Since triage/screening staff may not be aware of which countries are at risk, infection control practitioners (ICPs) should be instructed to consult the DOHMH website for recent health alerts: http://www.nyc.gov/html/doh/ or the CDC website at http://www.cdc.gov/travel/. ICPs may want to check for this information on a daily or weekly basis so that they can update the ED/clinic staff.];*
- Contact with someone who is also ill and traveled to an area that is to known to be or is at risk for a communicable disease outbreak of public health concern as outlined above;
- A healthcare worker (e.g., nurse, physician, ancillary services personnel, allied health services personnel, hospital volunteer) with a recent exposure to a potential communicable disease of public health concern;;

- Anyone who reports being part of a cluster of two or more persons with a similar febrile, respiratory illness (e.g., household, work or social cluster).
- If communicable disease triage screen:
  - **Positive**: Patients with a positive communicable disease triage screen should be given a surgical mask and prioritized for placement in an AIIR or private room pending clinical evaluation. Both patient and triage staff should perform hand hygiene.
  - **Negative**: Note negative communicable disease triage screen on ED form or sheet.
- If communicable disease triage screen positive, notify *ED Supervisor* _____ .
- Bring patient to pre-identified area for separating positive communicable disease triage screen patients to await medical evaluation.
- Perform hand hygiene after last contact with patient.

Job Action Sheet

(ED Supervisor) _____

Responsible Staff: _____

- When notified by **Triage Staff** concerning patient with positive communicable disease triage screen, ensure that appropriate infection control measures have been taken.
  - **Patient placed in AIIR or private isolation room**
  - Signage on door of isolation room.
  - Signage showing proper donning and removing of PPE outside of room.
  - Appropriate PPE placed outside door.
- Identified appropriate ED medical staff to conduct clinical evaluation to determine if patient has a communicable disease of public health concern
- If ED medical staff reports that patient is suspected to have potentially communicable disease of public health concern, then notification to be done by ED Supervisor or designees to:
  - Infectious Disease Consult
  - Infection Control Practitioners
  - Administrator On Duty
  - Nursing Administrator
  - NYC DOHMH
  - If communicable disease of concern has potential for airborne transmission, patient should be moved to an AIIR, if not already in one, and Engineering should be contacted to verify that airflow is negative.

Contact Identification Form for Exposure to Communicable Diseases of Public Health Concern

1. SUSPECT CASE information **a. Suspect Case Initials: _____ (IF MORE THAN ONE SUSPECT CASE, USE SEPARATE FORMS)**

b. Date Suspect Case Entered Hospital/Clinic: _____/_____/_____

c. Location(s) in Hospital/Facility of Suspect Case and Time Suspect Case Entered Each Location (best estimate):

Location 1: Time entered: Location 4: Time entered:

Location 2: Time entered: Location 5: Time entered:

Location 3: Time entered: Location 6: Time entered:

2. POTENTIAL CONTACTS information

	Last Name	First Name	Age	Gender	Address (street, apt #, city, borough, state, zip code)	Alt Address (e.g., work)	Home phone/ Cell phone ---------- Email Address	Alternate Phone/Cell (e.g., next of kin)	Type of Exposure to	Duration of Exposure to Suspect Case	If known, vaccine status (note which vaccine preventable illness of concern)
1							----------				
2							----------				
3							----------				
4							----------				
5							----------				
6							----------				
7							----------				
8							----------				
9							----------				
10							----------				
11							----------				
12							----------				

Prepared by GNYHA 2004

Model Memorandum of Understanding Regarding Sharing of Personnel During a Disaster*

This Memorandum of Understanding (the "Agreement") is made and entered as of this _____ day of _____, 2004, by and between _____ ("Hospital A") and _____ ("Hospital B"). "Hospital A" and "Hospital B" are collectively referred to as "Hospitals" or "parties". **

RECITALS

WHEREAS, "Hospital A" is a hospital with its main campus located at

_____;

WHEREAS, "Hospital B" is a hospital with its main campus located at

_____;

WHEREAS, the parties acknowledge that each party may from time to time require personnel to optimally meet the needs of patients due to the occurence of a disaster; and

WHEREAS, the parties have determined that a Memorandum of Understanding, developed prior to a sudden and immediate disaster, is needed to facilitate the sharing of personnel in the event of a disaster;

NOW, THEREFORE, in consideration of the above recitals, the parties agree as follows:

1. Definitions.

a. "Borrowing Hospital" is the party that requests personnel from the other party in the event of a Disaster.

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* This document was supported by Grant number U3RMCO1549-01, from the Health Resources and Services Administration. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of HRSA or the New York City Department of Health and Mental Hygiene.

** This document is designed as a model. The names of the hospitals entering into this agreement should be inserted in place of "Hospital A" and "Hospital B."

b. "Designated Representative" is the individual or position designated by each party to communicate with the other party.

c. "Disaster" means an event in which the hospital's emergency management plan has been activated and the hospital is unable to handle immediate patient care needs. Disasters include, but are not limited to, natural disasters, such as hurricanes, and other events, such as acts of terrorism that generate mass casualties. A Disaster may affect the entire facility or only a portion of the facility.

d. "Lending Hospital" is the party that is available to provide personnel to the other party in the event of a Disaster.

2. **Identification of Designated Representative.** Each party agrees to identify a Designated Representative and at least one back-up individual to communicate with the other party prior to and in the event of a Disaster. The names and contact information for the parties' Designated Representatives and back-up individuals is attached hereto as Exhibit "A" and is incorporated herein by this reference.

3. **Sharing of Information Regarding Personnel**. Prior to a Disaster, each party agrees, to the best of its ability, to share information regarding the personnel that may be available to be shared in the event of a Disaster. Such information may include: the name, employment status, licensure, training, and the individuals' specific delineation of clinical privileges.

4. **Lending of Personnel.** The Lending Hospital agrees to use its best efforts to make personnel available to the Borrowing Hospital in the event of a Disaster, upon request. The Lending Hospital shall be entitled to use its own reasonable judgment regarding the personnel it can provide without adversely affecting its own ability to provide services. Personnel subject to this agreement may include professional staff such as physicians and nurses, as well as ancillary staff such as housekeeping and food service workers.

5. **Communication of Request for Personnel.** After a Disaster has occurred, the Borrowing Hospital's Designated Representative may initially request personnel from the Lending Hospital's Designated Representative verbally. The request must be confirmed in writing as soon as possible. This should ideally occur prior to the arrival of personnel at the Borrowing hospital. To the extent practicable, the Borrowing Hospital will identify to the Lending Hospital the following:

   a. the type and number of requested personnel;
   b. an estimate of how quickly the personnel are needed;
   c. the location where the personnel are to report; and
   d. an estimate of how long the personnel will be needed.

6. **Response to Request for Personnel.** In response to the request, the Designated Representative of the Lending Hospital will provide the Borrowing Hospital with the following information for the personnel that the Lending Hospital is able to send: the number, names, licensure status, types of personnel, and when applicable, the specific delineation of clinical privileges.

7. **Documentation**. The arriving personnel will be required to present their Lending Hospital identification badge at the site designated by the Borrowing Hospital's Designated Representative. The Borrowing Hospital will be responsible for the following:

   a. confirming the personnel's identification card with the list of personnel provided by the Lending Hospital; and

   b. providing additional identification, e.g., "visiting personnel" badge, to the arriving donated personnel.

8. **Responsibility for Personnel**. The parties agree that the personnel made available to the Borrowing Hospital shall be totally under the supervision and control of the Borrowing Hospital while performing any actions in response to the Borrowing Hospital's request for personnel. [Hospitals should insert specific provisions regarding indemnification and malpractice insurance coverage for personnel that are borrowed/loaned pursuant to this agreement. Following is an example of such language: "Borrowing Hospital agrees to notify its professional liability insurer of the circumstances under which personnel from the Lending Hospital will be performing services pursuant to this agreement. Borrowing Hospital shall use commercially reasonable efforts to extend its professional liability insurance to cover the services performed by such personnel while they are acting pursuant to this agreement."]

9. **Recall of Staff**. The Lending Hospital may recall its personnel at any time in its sole discretion. If feasible, adequate notice will be provided to allow the Borrowing Hospital to arrange staffing from other facilities or agencies.

10. **Term**. The term of this Agreement shall be _____year (s) from the date of execution, and this Agreement shall be self-renewing for additional ____-year terms; provided, however, that this Agreement may be terminated with or without cause, by either party giving sixty (60) days prior written notice of termination to the other party.

11. **Effect of Agreement**. The execution of this Agreement shall not give rise to any liability or responsibility to either party for failure to respond to any request for assistance, lack of speed in responding to such a request, or the abilities or actions of the responding personnel.

12. **Governing Law**. This Agreement, and the rights, obligations and remedies of the parties hereto, shall be governed by and construed in accordance with the laws of the State of New York.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the day and year first above written.

_____(Hospital A)

By:

Title:

_____(Hospital B)

By:

Title:

EXHIBIT A

Name of Hospital A:

Name of Designated Representative: _____

Title of Designated Representative: _____

Contact Number of Designated Representative: _____

E-Mail of Designated Representative: _____

Name of Back-Up Individual: _____

Title of Back-Up Individual: _____

Contact Number of Back-Up Individual: _____

E-Mail of Back-Up Individual: _____

Name of Hospital B: _____

Name of Designated Representative: _____

Title of Designated Representative: _____

Contact Number of Designated Representative: _____

E-Mail of Designated Representative: _____

Name of Back-Up Individual: _____

Title of Back-Up Individual: _____

Contact Number of Back-Up Individual: _____

E-Mail of Back-Up Individual: _____

Utilizing Volunteers During a Disaster*

Category	Issue	Comment
Privileging of Unaffiliated Clinical Providers or Providers from Other Organizations or Institutions	Unaffiliated clinical providers, or providers from other hospitals or identified through other organizations (e.g., Medical Society of the State of New York) licensed in the same state or other states may present to an institution to volunteer.	The Joint Commission on Accreditation of Healthcare Organizations (JCAHO)has created a disaster privileging standard (M.S. 4.110) that states that disaster privileges may be granted when the institution's emergency management plan has been activated and the organization is unable to meet immediate patient needs. The rationale for the standard indicates that the hospital chief executive officer, medical staff president, or designee has the option to grant disaster privileges. The "elements of performance" for the standard indicates that the institution should identify individuals responsible for granting disaster privileges and a mechanism for doing so. Under the standard, acceptable sources of identification of volunteer medical staff providers are any of the following: • a current picture hospital identification card; or • a current license to practice and a valid picture identification issued by a state, federal, or regulatory agency; or • identification indicating that the individual is a member of a Disaster Medical Assistance Team; or • identification from a federal, state, or municipal entity indicating that the individual has been granted authority to render patient care in disaster circumstances; or • presentation by a current hospital or medical staff member with personal knowledge regarding the practitioner's identity. • The New York State Department of Health has indicated that it endorses the JCAHO Standard (M.S. 4.110) regarding the process and criteria to be used for granting privileges to medical practitioners who present at an institution to offer their services during a disaster. • If the providers are from an institution's own network, or from other organizations with pre-identified teams, a privileging/credentialing process may have been discussed and agreed upon before the volunteers are sent. • Members may assign specific staff members to verify credentials.

* This document was prepared by GNYHA in coordination with its Emergency Preparedness Coordinating Council to assist members in utilizing volunteers in their facilities during disasters. It is intended to provide an overview of requirements for utilizing volunteers as well as initiatives for utilizing volunteers being considered or undertaken by GNYHA members and should not be construed as recommendations. This document was supported by Grant number U3RMCO1549-01 from the Health Resources and Services Administration. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of HRSA.

Category	Issue	Comment
Utilizing Non-Clinical Volunteers	Non-clinical volunteers from an institution's usual volunteer pool, or unsolicited volunteers, may offer to assist in the event of a disaster.	• Members should consider whether they want to utilize unsolicited volunteers, who have never been oriented by the facility. • Members may want to set up a notification system so that they may call in volunteers from their usual pool when needed. • Members have suggested that outside organizations may assist members in utilizing volunteers, by working with members' existing volunteers, instead of sending volunteers from their organization to the institution.
Identification of Volunteers	Volunteers should be identified as having been through the credentialing/screening process in order to ensure that unscreened members of the public are not volunteering.	• One member has suggested setting up a location at each institution (a"volunteer staging area") where volunteers would be screened, credentialed, and provided with identification. Members may want to consider, as part of their emergency management plan, having a pre-determined list of tasks to be undertaken at the staging area. • One member suggested, once a disaster occurs, setting up a system on-site whereby volunteers could be provided with picture identification with expiration dates that they must present as they enter and leave the facility. • One member has prepared pre-printed color-coded identification cards with blank expiration dates (to be filled in later) that would be utilized in the event of a disaster. • Members may want to consider providing volunteers with wristbands, armbands, or vests to easily identify them.
Screening and Training	Volunteers should be assigned to specific tasks that are appropriate for their skills and trained in the institution's procedures.	• Members and others have emphasized the importance of screening volunteers before they are utilized. This may include interviews. • Members have indicated that sometimes it is necessary to refuse to permit members of the public to volunteer if they do not possess the appropriate skills. • Members and others have emphasized the importance of having ongoing training sessions for volunteers who are part of an institution's usual volunteer pool, instead of only calling them in when there is a disaster. • Members may also want to consider calling the volunteers in to assist in day-to-day operations when there is not a disaster, in order to ensure that they continue to be trained appropriately.

Category	Issue	Comment
		• Members may also want to consider having orientation sessions for local clinical staff and members of community that they plan to use as volunteers inan emergency to familiarize them with operations in the facility. • Members may want to consider training their own non-clinical staff to perform in different capacities during an emergency. • Some members require volunteers to sign confidentiality agreements to ensure patient confidentiality.
Supervision and Monitoring	Volunteers should be supervised and monitored to ensure that they are appropriately fulfilling their assigned duties.	• Members may also want to consider pairing clinical volunteers with clinical employees/staff so that the volunteers are appropriately supervised. • Members may want to consider coordinating the assignment of volunteer clinical staff to patients in a single location (e.g., the emergency department) to permit closer supervision. • Members may want to consider a system to track volunteer assignments in order to ensure that records are kept. • Areas to which volunteers are assigned should be monitored to keep only authorized staff in the area. • Members and others have indicated that it may be necessary to terminate volunteers who are not appropriately performing their assigned tasks.
Communicating with the Public	Organizations may receive offers from the public to volunteer and may need volunteers from the public with specific skills.	• Members may want to consider establishing a dedicated telephone line for taking calls from volunteers. Management of those calls should not interfere with the usual operations of the organization. • Members may want to consider identifying specific types of volunteers they need and providing the information to a central location (e.g., New York Cares), which could then provide information to the public (e.g., via telephoneor the Internet). • If members are contacted by volunteers but do not need them, members could refer the volunteers to the central location (e.g., New York Cares, at its Website, **www.nycares.org**). • It may be necessary to advise the media that persons interested in volunteering should contact the central location and not go directly to institutions.

Legal Issues Related to Hospital Response During a Disaster[1]

I. EMTALA

Perceived obstacle	Considerations for analysis	Available authority	Suggested guidelines for further hospital action
General EMTALA application during disaster	Though EMTALA is not disregarded during an emergency, it is never intended to become a barrier to the provision of equitable and responsible medical care. In response to an emergency, hospitals should first attempt to work within any existing State or local response or plan that has been established. Part of this response or plan could include undertaking an initial screening of patients and, depending on the specifics of the situation, recommending the referral/ transfer of a patient to another hospital or location that may act as a definitive care site for the emergency. A referral/ transfer in accordance with this response or plan is not likely to result in EMTALA sanctions. The referring hospital should, however, undertake some form of medical screening examination necessary to determine whether the patient is in the category of those who should be referred/ transferred. In addition, if a referring hospital is not acting pursuant to specific governmental direction, it would be obligated to coordinate its referrals with the recipient faculty or site; it should not merely send patients out without having established a plan for them.	In discussing Hurricane Katrina, CMS noted that: 1) Hospitals are generally required to comply with EMTALA during a declared public health emergency; 2) CMS will not impose sanctions if a hospital in the affected area redirects an individual an individual pursuant to a state emergency preparedness plan; 3) CMS will not impose sanctions if a hospital in the affected area transfers a patient who has not been stabilized if necessitated by the circumstances of the emergency; and 4) In no event can a hospital discriminate among individuals on the basis of their source of payment or ability to pay. http://www.cms.hhs.gov/Emergency/02_Hurricanes.asp - TopOfPage	Hospitals' emergency response plans should anticipate the possibility that the hospital might not be able to provide definitive care to all patients during an emergency. While it is impossible to identify every eventuality, a hospital should anticipate the possibility of referring/ transferring a range of patients, including the most or least injured patients, depending on the presenting circumstances, and include these possibilities in their emergency response plans. Hospitals should remember to log onto HERDS to make their needs known as part of their disaster plans and, for hospitals responding to a NYC emergency, to access OEM and NYCDOH through their OEM radios. In addition, hospitals may wish to remain in contact with GNYHA, which will attempt to match hospitals that need assistance with those with capacity as necessary. GNYHA will be coordinating with relevant agencies as part of established response mechanisms.

[1] This document was prepared by the Greater New York Hospital Association (GNYHA) in coordination with the New York City Department of Health and Mental Hygiene (DOHMH) through a grant of the United States Health Resources and Services Administration (HRSA). It is not intended as legal advice.

Perceived obstacle	Considerations for analysis	Available authority	Suggested guidelines for further hospital action
	Note that in most circumstances, a local or state authority will likely provide direction regarding patient transfer procedures. However, in some circumstances, a hospital may need to decide to refer/ transfer patients meeting certain medical criteria before or in the absence of governmental direction. Also, note that if both the President of the United States and the Secretary of the US Department of Health and Human Services declare a public health emergency, the Secretary may waive EMTALA and other regulatory sanctions, as was the case after Hurricane Katrina.	(See "Hurricane Q&A" for these and related statements.) EMTALA regulations, Interpretive guidelines, discussions w/ CMS staff. http://www.cms.hhs.gov/medicaid/survey-cert/sc0434.pdf	

Related perceived obstacle	Considerations for analysis	Available authority	Suggested guidelines for further hospital action
Hospitals fear that **only actions taken in response to a national emergency in accordance with an approved State or local emergency response plan** will protect them from EMTALA sanctions. They worry about **liability for any independent**	The fact that the interpretive guidelines for state survey agencies provide an example as to when EMTALA sanctions may be waived should not be read to imply that actions that fall outside of the specifics of such a plan would necessarily trigger EMTALA sanctions. Realistically, a hospital may often be required to act outside of the confines of a State or local emergency plan or response, either because one does not exist, one has not yet been activated, or one is not detailed enough to anticipate every possible emergency situation.	EMTALA regulations, interpretive guidelines, discussions w/ CMS staff, DOH http://www.cms.hhs.gov/medicaid/survey-cert/sc0434.pdf	Hospitals must consider the possibility that they will have to exercise independent judgment during an emergency situation. As such, they are encouraged to develop their own thoughtful emergency response guidelines, which respect the principles of EMTALA to the extent feasible while allowing for medically sound and appropriate patient care in an emergency. Hospitals are strongly encouraged to have written emergency policies and procedures and to train their staff on these guidelines in advance of an emergency.

Related perceived obstacle	Considerations for analysis	Available authority	Suggested guidelines for further hospital action
activity outside of an approved plan. This fear stems from an example included in the EMTALA interpretive guidelines, which provide guidance to state survey agencies on the issue of the waiver of EMTALA sanctions during catastrophic events.			
Hospitals believe they may have to respond to a **localized disaster** that may not trigger a State emergency response plan. They fear they will be liable under EMTALA for their independent decisions, in the event that no plan is ever activated.	As noted above, the fact that the interpretive guidelines provide an example for state survey agencies as to when EMTALA sanctions may be waived should not be read to imply that actions that fall outside of the specifics of such a plan would necessarily trigger EMTALA sanctions. Realistically, a hospital may often be required to act outside of the confines of a plan, either because one does not exist, one has not yet been activated, or one is not detailed enough to anticipate every possible emergency situation, including localized emergencies.	CMS staff, DOH staff	As noted above, hospitals must consider the possibility that they will have to exercise independent judgment in an emergency situation. As such, they are encouraged to develop their own thoughtful emergency response guidelines, which respect the principles of EMTALA to the extent feasible while allowing for medically sound and appropriate patient care in an emergency. Hospitals are strongly encouraged to have written emergency policies and procedures and to train their staff on these guidelines in advance of an emergency.

Related perceived obstacle	Considerations for analysis	Available authority	Suggested guidelines for further hospital action
Hospitals are concerned that **EMTALA requires full patient documentation** even in an emergency situation. Given the potentially large number of presenting patients and the intensity of an emergency situation, they fear that t**horough documentation is unrealistic if not impossible.**	While EMTALA requires hospitals to keep full patient logs, this may not be possible in an emergency situation. Following 9/11, DOH recommended that hospitals keep track of patient names and phone numbers to the extent possible. Such an approach seems realistic, given the challenges confronting hospital EDs during emergency situations. More recently, after Hurricane Katrina, hospitals and regulators made a wide range of allowances for evacuees who did not have adequate identification with them.	EMTALA regulations, Interpretive guidelines, discussions w/ CMS staff. http://www.cms.hhs.gov/medicaid/survey-cert/sc0434.pdf	In an emergency situation, hospital administrators and ED doctors should remember the importance and utility of maintaining some form of patient tracking system, to the extent such a system is feasible and safe. The need for such a system should be incorporated into a hospital's emergency preparation activities and training in advance of an emergency situation.
Hospitals fear that using **non-clinical staff** to direct patients who come to the ED in an emergency situation could result in EMTALA sanctions. However, they may need to rely on hospital administrators or support staff to help steer patients in a chaotic time.	EMTALA indicates that only medical staff should be making clinical decisions about screening and patient triage. In an emergency situation, non-clinical staff (including hospital administrators and security staff) may need to assist in publicizing triage procedures and directing patients, but professional staff should be involved in the hospital's clinical decision making and planning.	EMTALA regulations, Interpretive guidelines, discussions w/ CMS staff. http://www.cms.hhs.gov/medicaid/survey-cert/sc0434.pdf	Hospitals should prepare in advance for the triage and patient direction that may be necessary in an emergency. A hospital's emergency response guidelines should express the need to have professional staff involved in clinical decision-making. Hospitals may wish to consider standing orders, standard treatment guidelines, or a job action sheet to address this possibility.

Related perceived obstacle	Considerations for analysis	Available authority	Suggested guidelines for further hospital action
Hospitals are concerned that they will face EMTALA liability if they **fail to detect** an emergency condition like **SARS or anthrax** immediately. In such a situation, they believe it is likely that the first few cases will go unnoticed, and they worry that they will be held responsible for a perceived mistake.	EMTALA allows for errors in medical judgment. Moreover, during an emergency, it is expected that regulators and the legal system will recognize that an ED's available resources may be limited by the challenges of the situation.	EMTALA regulations, interpretive guidelines, discussions w/ CMS staff. http://www.cms.hhs.gov/medicaid/survey-cert/sc0434.pdf	All ED personnel should be trained on the warning signs of conditions like SARS, anthrax, or avian flu. Hospitals should consider what type of communication processes should be in place to report suspected cases, both internally and externally.

II. Volunteers and Liability

Perceived actions	Considerations for analysis	Available authority	Suggested guidelines for further hospital action
Hospitals are uncertain as to how to **privilege and credential clinical volunteers** during an emergency. Some hospitals are reluctant to use volunteers at all	The State has endorsed JCAHO's Standard MS.4110 to provide emergency privileges when the institution's emergency management plan has been activated and the organization is unable to meet immediate patient needs. In summary, this standard allows hospitals to provide disaster privileges if a volunteer has one of several forms of personal identification.	JCAHO Standard MS.4110, DOH August 6, 2004 Advisory http://www.gnyha.org/eprc/general/presentations/20040806_DOH_JCAHO.pdf See GNYHA Model Disaster Privileges Policy, Model MOU Regarding Sharing of	DOH is creating a statewide database of medical professionals who might be available as volunteers. The list currently includes only physicians and registered nurses but will be expanded to include other licensed health professionals (e.g. dentists, Pas, NPs, etc.) Until that time, the State encourages pre-credentialing among partnering hospitals. Note that after Hurricane Katrina, HHS created a

Perceived actions	Considerations for analysis	Available authority	Suggested guidelines for further hospital action
because of the fear of liability.		Personnel During a Disaster http://www.gnyha.org/eprc/general/workforce_volunteer/2004_Sharing_Personnel.pdf For more specific discussion of these issues, see GNYHA's "Utilizing Volunteers During a Disaster." http://www.gnyha.org/eprc/general/workforce_volunteer/2004_Volunteers_Disaster.pdf	system for credentialing out-of-state volunteers who wanted to assist in the recovery efforts. Though hospitals should continue to plan in advance, it is likely that either the State or Federal government would be involved in a credentialing process should an emergency situation extend over a long period of time. NYS DOH is currently developing the NYS Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP) and working to integrate it into the Volunteer Health Professional Database. This system is partially developed and is only available for those MDs and RNs who have volunteered to be part of the State volunteer program.
Hospitals expect that **out-of-state physicians will volunteer** their services during an emergency. Though hospitals may need this assistance, they are reluctant to allow doctors not licensed by New York State to work in their hospitals. They are curious if there is any type of **licensing reciprocity between states** for emergencies.	New York is currently issuing physician license cards with driver's licenses. However, not all physicians licensed in NYS live in the State or hold an NYS driver's license. Licensed volunteer professionals from out of state who respond to an emergency in NYS through the Emergency Management Assistance Compact ("EMAC") are considered licensed in NYS if they are currently licensed in their home state. DOH is continuing to work on this issue.	DOH staff, Exec Law §29-g. http://caselaw.lp.findlaw.com/nycodes/c39/a5.html	Hospitals should consider how to approach this problem in advance of an emergency situation, and ED personnel should be trained on the hospital's policies. In the past, some hospitals have simply refused to work with any out-of-state volunteers in the early days of an emergency; this is, of course, only one possible course of action.

Related perceived	Considerations for analysis	Available authority	Suggested guidelines for further hospital action
Medical professionals wonder whether they will have any **immunity from liability** if they **volunteer** their professional services during an emergency. They question whether the analysis changes, depending on whether they are volunteering within a **hospital or at an alternate care site.**	Per DOH, medical professionals will be provided secondary indemnification under Public Officers Law 17 if dispatched by the State in an emergency. This indemnification reportedly extends to professionals dispatched to any location, whether in or outside of a hospital. Medical professionals include physicians, nurses, dentists, pharmacists, and physician's assistants; DOH reports that it hopes to extend the coverage in the future. Similar indemnification will be provided under General Municipal Law 50-K for volunteers dispatched by New York City. In addition, DOH reports that it is encouraging would-be volunteers to register with a bona fide volunteer network before an emergency, thereby lessening the risk of liability to themselves and facilities.	As noted above, see JCAHO Standard MS.4110, DOH August 6, 2004 Advisory http://www.gnyha.org/eprc/general/presentations/20040806_DOH_JCAHO.pdf Public Officers Law 17 http://assembly.state.ny.us/leg/?cl=94&a=3 General Municipal Law 50-Khttp://caselaw.lp.findlaw.com/nycodes/c48/a6.html ESAR-VHP http://www.hrsa.gov/bioterrorism/esarvhp/legalissues.htm	Hospitals should coordinate with DOH whenever possible to seek and provide volunteers. In addition, hospitals should consider how to approach this issue and integrate it into emergency response plans, training, and education.
Hospitals fear institutional **liability for actions taken by their volunteers during an emergency**. They are not certain if **malpractice insurance** would cover such liability.	FOJP reports that facilities should have an MOU regarding sharing of personnel with another facility during an emergency that includes a provision about assuming liability/insurance coverage. Facilities should each share the MOU with their carrier. Per FOJP, such an MOU should not increase premiums unless the facility assumes completely new obligations, which is unlikely. In addition, DOH reports that it is encouraging would-be volunteers to	See GNYHA Model MOU Regarding Sharing of Personnel During a Disaster http://www.gnyha.org/eprc/general/workforce_volunteer/	Hospitals should consult with their carrier and consider executing the MOU referenced in this chart.

Related perceived obstacle	Considerations for analysis	Available authority	Suggested guidelines for further hospital action
	register with a bona fide volunteer network before an emergency, thereby lessening the risk of liability to themselves and facilities.		

III. Facilities and Staff Management

Perceived obstacle	Considerations for analysis	Available authority	Suggested guidelines for further hospital action
Hospitals anticipate **moving patients to alternative patient care space to accommodate patient surge during an emergency**. The patients placed in an alternative site may be those already admitted to the hospital (i.e., those who are not victims of the emergency), or they may be those who come to the hospital after an emergency. In either case, such a location shift may be necessary logistically, but hospitals fear they will face **State sanctions for treating patients in an alternative**	JCAHO encourages identification of "latent" space and employing other surge capacity tactics as part of emergency planning. DOH states that if hospitals move patients to alternative spaces and the State does not activate an emergency plan or response, hospitals may not be reimbursed for treating these patients. In addition, the State says there would have to be some evaluation of who can be moved and who cannot. Ultimately, DOH cannot provide a definitive answer but encourages hospitals to use common sense and to call the State if possible for guidance in an emergency. DOH regulations indicate "a hospital may temporarily exceed [the bed capacity specified in the operating certificate] in an emergency." See 10 NYCRR §401.2(a).	See JCAHO White Paper on creating emergency preparedness systems. http://www.jcaho.org/about+us/public+policy+initiatives/emergency_preparedness.pdf Consult with DOH staff	Hospitals should attempt to plan for the use of alternative space in their emergency planning and, as appropriate, request situation-specific guidance from DOH, including guidance regarding eventual reimbursements. In addition, hospitals should have documented policies and train staff on use of non-traditional patient space and alternative care sites. Hospitals should review the non-traditional patient care settings created HHS following Hurricane Katrina, including those created in New York State for evacuees.

Perceived obstacle	Considerations for analysis	Available authority	Suggested guidelines for further hospital action
space or outside of the hospital entirely. They are also concerned about the implications of moving patients in such a **fashion if the State has not yet or does not activate its emergency plan or response.** Hospitals fear that they may need to act before they receive any definitive word from the State.			
In an emergency, hospitals may have to **discharge the healthiest of its inpatients** in order to accommodate the surge of patients harmed during the emergency situation. Hospitals fear that they may not have the time or staff available **to comply with each element of the NYS safe discharge**	According to DOH, it cannot waive the safe discharge regs or any other hospital requirements in advance. However, DOH states that it would take the emergency into consideration in the event of a concern. DOH is not aware of issuing any citations to any hospitals after 9/11 regarding discharge regs. In addition, DOH has indicated support for using home care nurses as support staff if there is a need for unexpected discharge to accommodate surge. Hospitals should bear in mind that neither Federal nor State regulators have an interest	DOH staff gave this advice over the phone but said it was not able to issue more definitive written guidance. 10 NYCRR 405 et seq http://www.health.state.ny.us/DOH/phforum/nycrr10.htm	Hospitals should incorporate guidelines for patient discharge in its emergency response plan and ensure that staff is familiar with these guidelines. In contemplating this issue, hospitals have proposed a variety of solutions, including: • Setting up discharge prescription stations to help patients with meds; • Employing discharge planners and case managers; • Using nursing homes to house and treat non-emergency patients; • Relying on VNS and other home care agencies to treat discharged patients

Perceived actions	Considerations for analysis	Available authority	Suggested guidelines for further hospital action
regulations. They worry that they will be liable for a perceived infraction, even if one is necessary to best respond to the emergency.	in finding violations while hospitals are struggling to serve communities recovering from emergencies. Both hospitals and regulators should rely on common sense and professional judgment.		
In an emergency, hospitals fear that all staff, including residents, will want and need to work extended hours. As a result, they may necessarily violate the State's resident work hour requirements. They fear liability for such an infraction yet worry that it will be impossible to monitor staff hours during an emergency.	DOH has stated that it cannot waive the resident work hour requirements in advance. However, it would consider extenuating circumstances like a disaster when evaluating residents' schedules or work hours. Hypothetically, if a hospital were to have an IPRO or other review shortly after an emergency, DOH would use "very good judgment" to evaluate any anomalies in work hours. They caution, however, that the hospital would face problems if DOH were to re-evaluate after a few months and find the same violations of resident work hours. Once again, hospitals should bear in mind that neither Federal nor State regulators have an interest in finding violations while hospitals are struggling to serve communities recovering from emergencies. Both hospitals and regulators should rely on common sense and professional judgment.	DOH staff gave this advice over the phone but said it was not able to issue more definitive written guidance. 10 NYCRR 405 et seq http://www.health.state.ny.us/DOH/phforum/nycrr10.htm	In general, hospitals acknowledge that they must task their staffs appropriately. Some hospitals note that they have required their residents to take a break during emergencies, even though most physicians are unwilling to leave their posts. Hospitals should review this issue and include it in its emergency response plan and staff education.

IV. Decontamination

Perceived actions	Considerations for analysis	Available authority	Suggested guidelines for further hospital action
Hospitals are concerned that they will be **liable if a patient wants to leave the hospital without being decontaminated** after possible exposure to a chemical or biological hazard.	10 NYCRR 2.27 states that a physician has a duty "to cause [a] patient [with a highly communicable disease] to be isolated, pending official action by the health officer." However, there is no clear guidance in the case of exposure to a chemical or radiological agent. DOH urges hospitals to consult with it in such a situation.	10 NYCRR 2.27 http://www.health.state.ny.us/DOH/phforum/nycrr10.htm	Until DOH issues definitive guidance, hospitals should consider the policies they wish to establish regarding this issue and incorporate them into their emergency planning and education. Some hospitals have indicated that they will behave in a manner that assumes that the communicable disease regulations also apply for chemical or biological risks.
In the case of a biological or chemical emergency, hospital staff may **unknowingly bring a contaminated patient into the ED**, thus risking exposure for all other patients and staff inside. Hospitals fear they will be **liable for any resulting contamination.**	NYDOH is encouraging hospitals to protect themselves by stopping and decontaminating patients before they enter the ED to receive other services. Overall, however, the DOH does not anticipate hospital liability for such an occurrence.	DOH staff	Hospitals should consider establishing decontamination units outside of their emergency departments and require known patients to undergo decontamination before entering the ED.

V. Additional Issues

Perceived obstacle	Considerations for analysis	Available authority	Suggested guidelines for further hospital action
Hospitals are uncertain of their responsibilities regarding **blood**	In general, sites of terrorist activities are considered to be crime scenes, so any blood taken as a result of these activities would be subject to chain of custody requirements.	http://www.cdc.gov/od/ohs/pdffiles/DOThazMat8-14-02.pdf -	Hospitals should review the chain of custody requirements and contact DOH for additional guidance. ED personnel should be trained on these issues.

Perceived obstacle	Considerations for analysis	Available authority	Suggested guidelines for further hospital action
samples taken during an emergency. They do not know if they need to follow State chain of custody requirements in all situations.	DOH reports that it has been consulting with the New York State Troopers and will be providing training on appropriate packaging and transference of blood samples.	Federal Rule re transport of hazardous materials.	
In the event of an emergency, hospitals may need to share patient information with concerned family members searching for their relatives. However, hospitals worry that HIPAA may limit the **medical and social information** that can be released in an emergency.	Under HIPAA, hospitals may use or disclose patient information to assist in notifying family members or personal representatives of the individual. Hospitals must first determine whether the patient has capacity to make health care decisions. If so, the patient must agree to disclosure. If not, the hospital may disclose the information if, in its professional judgment, it is in the best interest of the patient. In the event of a disaster, a patient locator system may be set up to assist in location of patients and notification of family members. Hospitals may determine that seeking individual consent interferes with ability to provide notifications in timely manner. In addition, if both the President of the United States and the Secretary of the US Department of Health and Human Services declare a public health emergency, the Secretary may waive HIPAA sanctions relating to certain requirements, as was the case after Hurricane Katrina.	HIPAA Regs, Section 164.510(b), http://www.hhs.gov/ocr/combinedregtext.pdf See also GNYHA HIPAA Guidance http://www.gnyha.org/publications/PDF/2003_HIPAA_Brochure.pdf	Hospitals are encouraged to document their decisions in their disaster preparedness/response plans and in their HIPAA policies and procedures. ED staff should be familiar with these guidelines.

Prepared by GNYHA 2004

Model Disaster Privileges Policy*

POLICY:

It is the policy of _____ Hospital, to permit the Chief Executive Officer, Medical Staff President, or their designee(s), to grant disaster privileges on a case-by-case basis when the hospital's emergency management plan is activated and the hospital is unable to handle immediate patient care needs. This policy outlines _____ Hospital's plan to accept volunteer practitioners and to process the credentials of those practitioners who do not currently possess medical staff privileges to practice at _____ Hospital.

PURPOSE:

The purpose of this policy is to outline the process for granting disaster privileges to licensed independent practitioners (LIPs) during the time when the hospital's emergency management plan is activated and the hospital is unable to handle immediate patient care needs.

RESPONSIBILITY:

The [insert title(s) of responsible individuals(s)]** is/are responsible for granting disaster privileges in accordance with this policy. The [insert title(s) of responsible individuals(s)] is not required to grant disaster privileges and will make such decisions on a case-by-case basis at his or her discretion.

PROCEDURE:

When the hospital's emergency management plan has been activated, the hospital will utilize the following process for any LIP who is not on the medical staff of _____ Hospital and who presents his/her self as a volunteer to render services:

1. The practitioner will be directed to _____,where he/she must present any one of the following, prior to the granting of disaster privileges:

    a. a current hospital photo identification card; or

    b. a current license to practice and a valid picture identification card issued by a state, federal, or regulatory agency; or identification indicating that the individual is a member of a Disaster Medical Assistance Team (DMAT); or

    c. identification indicating that the individual has been granted authority to render patient care, treatment, and services in disaster circumstances (such authority having been granted by a federal , state, or municipal entity); or

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* This model policy, which has been prepared by GNYHA, is based upon JCAHO Standard MS.4110. The New York State Department of Health has endorsed MS.4.110. This document was supported by Grant number U3RMCO1549-01, from the Health Resources and Services Administration. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of HRSA.

** While JCAHO Standard MS.4110 indicates that the Chief Executive Officer, Medical Staff President, or their designee(s) have the ultimate responsibility for granting disaster privileges, MS. 4.110 indicates that the hospital should identify in writing the individual(s) responsible for granting disaster privileges.

d. presentation by current hospital or medical staff member(s) with personal knowledge regarding the LIP's identity.

2 Once a practitioner obtains approval for disaster privileges, _____ Hospital will issue appropriate identification. The practitioner will then report to and practice under the auspices of the chairman/designee of the department to which he/she is assigned.

3. The medical staff will begin the verification process of the credentials and privileges of individuals who receive disaster privileges as soon as the immediate situation is under control. The verification process is identical to the process established under the medical staff bylaws for granting temporary privileges to meet an important patient care need, and is a high priority.***

4. All disaster privileges will immediately terminate once the emergency management plan is no longer activated. However, the hospital may choose to terminate disaster privileges prior to that time. The practitioner must return the temporary ID card to _____.

5. The medical staff will maintain a list of all volunteer practitioners who received disaster privileges during the emergency management/disaster event.

REFERENCES:

JCAHO Standard MS.4.110.

*** JCAHO Standard MS.4.110 assumes that hospitals have a procedure for granting temporary privileges to meet an important patient care need.

Interim Guidance for Home Caregivers of Influenza Patients During a Pandemic

To help prevent transmission of influenza virus, household members and care givers should be advised to follow these guidelines for *7 days after the patient's onset of fever*:*

- Treatment will primarily be supportive and include rest, drinking fluids, and analgesics for muscle pain and headache. Use of antivirals will be limited to those meeting priority criteria.
- If available, the patient should wear a surgical mask home from the clinic or hospital. The mask should be worn around other people for 7 days after the first day of fever, even while at home. The mask should be changed daily or sooner if it gets wet or soiled.
- Designate 1 person as the primary care provider. Other persons living in the home should limit contact with the patient to the extent possible and should sleep in a separate room. Avoid close contact such as kissing; and do not share toothbrushes, cigarettes, or drinks with non-infected persons
- Other visitors who are not essential for patient care should not enter the home while the patient is ill with influenza. If unexposed persons must enter the home, they should avoid close contact with the patient.
- The patient should be reminded to cover their mouth and nose with a tissue when sneezing, coughing, or blowing the nose - and to wash their hands after throwing the used tissue in the garbage. Used tissues and face masks can be discarded with the regular garbage. Hands should be washed with soap and water or with an alcohol-based hand rub.
- If any body fluids (such as secretions from the nose or mouth, or urine, vomit, or stool) gets on surfaces in the home (such as door knobs or any other object that you sneeze or cough on), the surface should be washed with any standard household cleaner or disinfectant. Rinse the surface with tap water afterwards. If someone else does the cleaning, he/she should wear rubber gloves.
- Soiled dishes and eating utensils should be washed either in a dishwasher or by hand with warm water and soap. Separation of eating utensils for use by a patient with influenza is not necessary. Laundry can be washed in a standard washing machine with warm or cold water and detergent. It is not necessary to separate soiled linen and laundry used by a patient with influenza from other household laundry. Care should be used when handling soiled laundry (i.e., avoid "hugging" the laundry) to avoid contamination. Hands should be washed after handling soiled laundry.
- If the patient needs to go to the doctor's office, a family member or friend should drive them in a private car and they should not take public transportation (subway or bus). The doctor's office or clinic should be called to let them know that the patient has been diagnosed with influenza. If possible, the patient should wear a surgical mask, and should go straight to the receptionist on arrival so that he/she can be put in a private room while waiting to see the doctor.

* NOTE: The period of contagiousness for the pandemic strain can not be known ahead of time. Once more information is available based on epidemiologic studies, the recommended timeframe of 7 days may need to be changed.

Section 6: Delivery of Antiviral Drugs

OVERVIEW

Antiviral drugs are an important adjunct to influenza vaccine for the prevention and control of seasonal influenza. Use of antiviral drugs for prophylaxis has been demonstrated to be 70% to 90% effective in preventing symptomatic influenza infection if used before exposure to susceptible influenza strains. Treatment with one class of antiviral drugs, the neuraminidase inhibitors, has been shown to decrease severe complications, such as pneumonia and bronchitis, and to reduce hospitalizations if used early in the course of disease.

Currently, 4 approved agents are available in the United States: the M2 ion channel inhibitors (amantadine and rimantadine) and the neuraminidase inhibitors (oseltamivir and zanamivir). Because M2 inhibitors are less expensive and more widely available, but are more likely to cause adverse effects and induce antiviral resistance, especially when used for treatment, they are generally reserved for pre-exposure **prophylaxis** in selected populations. The neuraminidase inhibitors are newer, more expensive, and are less likely to cause side effects and to induce antiviral resistance — these agents are generally used in the **treatment** of influenza (see Appendix 6A).

OBJECTIVES

The New York City (NYC) Department of Health and Mental Hygiene (DOHMH) will provide clinical guidance on the use of antiviral drugs in the prophylaxis or treatment of pandemic influenza, and will advise health care providers accordingly. NYC DOHMH will also oversee and/or make recommendations for distribution of antiviral drugs available from the Strategic National Stockpile (SNS) and the New York State Department of Health (NYS DOH) Medical Emergency Response Cache (MERC), if necessary. Recommendations for the use of antiviral drugs will be affected by the following factors:

- Availability of antiviral drugs, either through the SNS, NYS DOH MERC, local supplies, or the private sector
- Decision to use for prophylaxis, treatment, or both
- Susceptibility of the pandemic influenza strain to currently licensed antiviral drugs
- Evidence of the effectiveness of antiviral drugs to reduce the mortality and/or severe morbidity of the pandemic strain based on clinical and epidemiologic information collected at the start of the pandemic

ROLES AND RESPONSIBILITIES

During interpandemic and pandemic alert periods, DOHMH will provide guidance on the use of influenza antiviral drugs based on best clinical practices. DOHMH currently provides this type of

guidance on an ongoing basis. Because the manufacture, purchase, distribution, and prescribing of influenza antiviral drugs usually occurs in the private sector, DOHMH guidance and involvement will increase greatly as pandemic-specific information becomes available, and as the situation warrants.

During a pandemic, DOHMH will work closely with the federal government and NYS DOH to manage the receipt, storage, distribution, and use of antiviral drugs. Because antiviral supplies are expected to be limited, DOHMH will follow specific guidelines to ensure appropriate, effective, and equitable use.

After the pandemic phase has ended, a potential second wave of activity is expected. DOHMH will continue to advise health care delivery partners in the proper use of antiviral drugs and assess local antiviral drug supplies and distribute additional drugs, if available.

CHALLENGES

The distribution and use of antiviral drugs during a pandemic will be difficult. Because limited supplies of the drugs are anticipated, detailed operational plans are being developed in collaboration with the federal government, NYS DOH, and the medical community to ensure equitable distribution and access. In addition, components of the plan will include proposed methods for tracking drug use and monitoring for adverse events and resistance.

Interpandemic and Pandemic Alert Periods (WHO phases 1-5)

Currently, the manufacture, purchase, distribution, and prescribing of influenza antiviral drugs is conducted primarily within the private sector. During interpandemic and pandemic alert periods, DOHMH will provide clinical guidance on the use of these agents and advise health care providers accordingly, as was done in January 2006 when an alert was issued about amantadine resistance in H3N2 influenza isolates. During the 2004-2005 influenza season, DOHMH obtained limited quantities of amantadine from the NYS DOH to address influenza outbreaks in nursing homes. NYS DOH has, at the time of this writing, purchased 60,000 10-day treatment courses of oseltamivir for use during a pandemic, and currently has an additional 950,000 10-day treatment courses on order with Roche Pharmaceuticals. These courses are part of the NYS DOH MERC, and DOHMH would expect access to these supplies but would also rely upon federally held antiviral drugs in the SNS.

As of June 2006, the SNS contained 5 million treatment courses of rimantadine, over 6.2 million

5-day treatment courses of oseltamivir, and 84,000 treatment courses of zanamivir. An order for approximately 16.5 million additional regimens of oseltamivir and 3.9 million regimens of zanamivir has been placed. The U.S. Department of Health and Human Services (HHS) has announced plans to ultimately provide enough oseltamivir to treat 25% of the U.S. population through a combination of federal purchases and federally subsidized state purchases. The NYC allocation is sufficient to treat 25% of the NYC population; 60% of this amount will be provided by the federal government. Individual states, including New York, will have the option to buy into the SNS antiviral stockpile at 75% of the cost of the purchase for the remaining 40% of the allocation. However, the details and guidance from HHS are still pending.

As limited supplies will be targeted to priority groups (see Table, page 92 of this Section), it will be critical to prepare effective communication in advance to help the public and health care providers understand the reasoning for the need to limit antiviral use to these priority groups. General messages will be prepared in advance for distribution to the public during the early stages of a pandemic. These messages will be reviewed and updated on an ongoing basis.

DOHMH does not recommend stockpiling of antiviral drugs by individuals and non-health care facilities in anticipation of an influenza pandemic (Appendix 6B). Promoting sufficient supplies of antiviral drugs for use during a pandemic will require that all available medication be used by health care providers. Providers will be given detailed guidance to ensure that antiviral drugs are used in accordance with current prioritization protocols.

Pandemic Period (WHO phases 6)

NYC is an international entry and exit point for millions of travelers and residents every year. Due to the large volume of human traffic entering the area every day, NYC would be a logical site for early introduction of pandemic influenza. Once initial cases are identified in NYC, antiviral drugs and other assets from the SNS would be requested by DOHMH, in coordination with NYS DOH. Additionally, NYS DOH MERC assets would be requested and would be immediately available to NYC. As supplies of antiviral drugs from all sources are expected to be limited, it is anticipated that sufficient quantities will not be available for the full needs in NYC (for prioritization, see Table, page 92 of this Section).

Besides availability, specific choice of agent(s) would depend on the susceptibility of the pandemic strain, adverse reaction profile, population(s) affected, and the evolving clinical and epidemiological understanding of the effectiveness of antiviral drugs for the pandemic strain. Guidance on antiviral use will need to balance the potential or proven benefit of treatment with the risk of inducing the emergence of drug resistance.

The current treatment regimen for influenza A using neuraminidase inhibitors is a 5-day course. However, recent evidence suggests that the strain of H5N1 currently circulating in Asia may require a longer course (up to 8 days) for maximum therapeutic benefit. Administration of oseltamivir in individuals infected with H5N1 has, to date, occurred late in the course of disease and has not demonstrated significant therapeutic effect. Laboratory studies, including mouse models, have led researchers to believe that H5N1 is susceptible to neuraminidase inhibitors but generally shows resistance to the adamantanes. However, WHO reported in January 2006 that genetic and antigenic analyses of H5N1 virus obtained from 2 human cases in Turkey revealed that these isolates were sensitive to both classes of antiviral drugs. As this evidence demonstrates, treatment recommendations will need to be modified as knowledge of the actual efficacy of available antiviral drugs on the pandemic strain becomes available from the initial clinical and epidemiologic data.

Receipt, Storage, Distribution, and Use of Antiviral Drugs

NYC will implement the following policies and procedures in the event antiviral drugs are made available, either through the SNS and/or through a local stockpile. Specific details may change as the epidemiology and clinical behavior of the pandemic strain becomes evident.

Receipt

Stockpiled antiviral drugs will be obtained by NYC via formal request for SNS assets from the federal government. DOHMH will assume and maintain local control until distribution to points of patient care (e.g. hospitals, primary care clinics).

Storage

Locally maintained antiviral drugs will be held in a temperature-controlled, secure location that meets FDA-established criteria.

Distribution

- DOHMH plans to distribute antiviral drugs to hospitals, community health centers, other Article 28 facilities, and nursing homes for use in the treatment of individuals with suspected or confirmed pandemic influenza infection based on clinical case definitions. The relative distribution of antiviral drugs to the different facility types will depend on the available supply. Facilities that receive stockpiled antiviral drugs must agree to use this asset in compliance with protocols established by the HHS and DOHMH. Protocols will require that facilities can assure appropriate security for the medication, limit distribution to priority groups, maintain accurate records to track usage, and report adverse events.
- Once WHO announces a pandemic has started, DOHMH will implement surveillance activities as described in Section 2 (Surveillance) of this plan. Depending on the geographic location of the initial cases of pandemic influenza and depending on available supplies, stockpiled antiviral drugs may be pre-positioned to ensure treatment of early cases. As the pandemic unfolds and local impact increases, additional treatment courses will be provided, as available, to ensure that affected areas have supplies to treat individuals rapidly and equitably. Once pandemic influenza is identified throughout NYC, stockpiled antiviral drugs will be advanced to all qualifying facilities within the 5 boroughs as supplies permit. Additional amounts will be provided to affected facilities based on surveillance and/or the request of affected locations, as long as supplies allow.

Treatment

- During a pandemic, a significant proportion of the population will become infected with the pandemic strain (15%-30%). Because antiviral supplies are expected to be too limited to provide to every infected individual, specific guidelines must be followed to ensure appropriate, effective, and equitable use. The primary goals are to direct available antiviral drugs to those expected to have the greatest benefit from treatment (i.e., improved survival).
- All stockpiled antiviral drugs will likely be reserved for treatment purposes only. Given the current limitations in availability of antiviral stockpiles, this asset is not expected to be used for prophylaxis. Treatment of ill patients is expected to be for last 5 days, while prophylaxis of individuals would be necessary for the duration of potential exposure, which may last for 8 weeks or more, thereby quickly depleting existing supplies. This expectation can be altered only in the event that additional quantities of antiviral drugs can be obtained to cover treatment of all priority groups or if alternate strategies for use of antiviral drugs are recommended.

- Treatment with antiviral drugs will need to be limited to persons who meet the clinical or laboratory confirmed case criteria for pandemic influenza as defined by CDC and DOHMH. It is expected that early in the pandemic, these criteria will include fever, respiratory symptoms, and epidemiologic risk factors (e.g., contact with a known case overseas). As the pandemic unfolds and begins to circulate more widely in NYC, epidemiologic risk factors are likely to become less important and symptoms consistent with influenza infection will suffice.

- Currently available antiviral drugs are most effective when used within 48 hours of the onset of symptoms consistent with influenza infection. Therefore, stockpiled antiviral drugs will be used only in individuals who have had symptoms for less than 48 hours. This necessity will require difficult decisions about who will not receive antiviral drugs. For example, patients with symptoms less than 48 hours who are too severely ill to benefit from antiviral treatment may not receive them. If epidemiologic data identifies patients who are at low risk of dying, they may not necessarily receive the scarce antiviral drugs.

- DOHMH will provide treatment algorithms to those facilities and providers who will disburse medication to ill patients. All facilities and providers will be expected to follow these algorithms and to contact DOHMH for permission to use these medications in any way that deviates from established protocols. Standard recommended daily dosages of antiviral drugs for treatment and prophylaxis are available (see Appendices 6C-6F).

- Given the poor sensitivity of rapid influenza tests, laboratory confirmation will not be required to meet criteria for antiviral treatment. Currently available rapid test kits are approximately 70% sensitive and > 90% specific, and can provide results within 1 hour. In a pandemic scenario, though, withholding treatment in a patient with a suggestive clinical picture and a negative rapid test would not be prudent. This recommendation may change if rapid tests with better sensitivity and specificity become available.

- Public messages will emphasize indications that will determine which individuals, based on certain clinical and priority risk group criteria, will be able to receive antiviral treatment. Balancing the need to educate the public with the need to minimize the impact on health care institutions (by persons seeking antiviral drugs) will be critical. The DOHMH Office of Communications will create these messages prior to the pandemic (See Section 9, Communications). Individuals who are not critically ill and do not meet specific criteria for antiviral priority treatment groups, but who need medical attention, should seek care at their physician's office or in a primary care setting. Those individuals who are seen at a private physician's office and who meet antiviral treatment criteria will be directed to a facility where antiviral drugs are available.

Priority Groups

- Due to the anticipated scarcity of antiviral drugs, prioritization needs to be considered. The overall goals of antiviral treatment are the reduction of mortality and the maintenance of essential services. The following priority Table is adapted from HHS documents. Any changes in prioritization will be based on clinical, epidemiological, and behavioral characteristics of the pandemic strain, as well as antiviral drug availability.

TABLE: PRIORITIZATION OF TREATMENT STRATEGY BASED ON POPULATION.

Group	Strategy	Population	Rationale
1	Treatment	Patients admitted to hospital	Consistent with medical practice and ethics to treat those with serious illness and who are most likely to die
2	Treatment	Outpatient ill health care workers with direct patient contact and emergency medical service providers with direct patient contact	Health care workers are essential to NYC's pandemic response, and ensuring an adequate workforce to care care for the anticipated patient surge is a priority. Health care workers will be at higher risk for infection, and early treatment with antiviral drugs will help minimize the impact on the health care workforce and lessen the risk of nosocomial transmission.
3	Treatment	Highest risk outpatients (immunocompromised patients and pregnant women)	Groups are at greatest risk of immunocompromised cannot be hospitalization and death; protected by vaccination
4	Treatment	Outpatient, ill critical pandemic health responders (public health, vaccinators, vaccine and antiviral manufacturers), public safety (police, fire, corrections).	Groups are critical for an effective public health response to a pandemic
5	Treatment	Increased risk outpatients (children 12-23 months old, persons ≥ 65 years old, persons with underlying medical conditions)	Groups are at high risk for hospitalization and death
6	Treatment	Outpatient ill pandemic societal responders (critical infrastructure groups) and health care workers without direct patient contact	Infrastructure groups have impact on maintaining health, implementing a pandemic response, and maintaining societal functions)

Group	Strategy	Population	Rationale
7	Treatment	Other outpatients	Includes others who develop influenza but do not fall within the above groups
8	Prophylaxis	Outbreak response in nursing homes and other residential settings	Treatment of patients and prophylaxis of contacts is effective in stopping outbreaks; vaccination priorities do not include nursing home residents
9	Prophylaxis	Health care workers in emergency departments, intensive care units, dialysis centers, and EMS providers	Groups are critical to an effective health care response and have limited surge capacity. Prophylaxis can help prevent absenteeism.
10	Prophylaxis	Highest risk outpatients	Prevents illness in the highest risk groups for hospitalization and death
11	Prophylaxis	Other health care workers with direct patient contact	Prevention would best reduce absenteeism and preserve optimal function

- **Vulnerable populations**

  DOHMH recognizes that individuals in vulnerable and hard-to-reach populations need to have equal access to antiviral drugs. To ensure equitable distribution, specific plans are under development to meet the needs of the following individuals:

  - **Children**

    Antiviral drugs are currently licensed for treatment and prophylaxis of children ≥1 year of age. Children will receive antiviral drugs as per the preceding priority list. Dosages need to be adjusted for children, and are outlined in Appendix 6F. Any alteration to the approved age for use of antiviral drugs will result in a corresponding update of the priority list to ensure treatment of all eligible children. As previously discussed, the priority list is subject to change based on epidemiological and behavioral characteristics of the pandemic strain.

    A system is in place for distribution of pediatric vaccine through the Vaccines for Children Program and for reporting all vaccines given to children under 19 years of age to the Citywide Immunization Registry (CIR). A database of all medical providers who give care to children is maintained and provides an existing infrastructure upon which to build. This database will be used to distribute antiviral drugs and/or to communicate about the recommended use of antiviral drugs for this population.

- **Homeless**
  Homeless individuals will be prioritized as per the preceding priority list. Those who qualify for treatment or prophylaxis as an outpatient (group 3 or lower) may receive their antiviral drugs through a hospital, Article 28 facility, or community health center. Planning to serve this population will be done in collaboration with the Department of Homeless Services (DHS). Plans will be built on current experience of distribution of annual influenza vaccine to this population through DHS and their medical providers.

- **Homebound**
  Homebound individuals will be prioritized as per the preceding priority list. Those who qualify for treatment or prophylaxis as an outpatient (group 3 or lower) may receive their antiviral drugs through a hospital, Article 28 facility, community health center, or home health service. Planning for antiviral distribution to this population has begun with agencies that provide services to these individuals.

- **Undocumented**
  Undocumented individuals will be prioritized according to the preceding list and will not need to demonstrate resident or citizen status. Communication to these individuals during a pandemic will clearly explain that everyone will be treated regardless of citizenship, documentation, or ability to pay.

- **Imprisoned**
  Individuals in jail and prisons will be prioritized as per the preceding priority list. Planning has begun with the NYC Department of Correction and NYC DOHMH Correctional Health Services, and will include the distribution of antiviral drugs during a pandemic.

FACT SHEET

Antiviral Agents for Influenza: Background Information for Clinicians

Introduction

Four prescription medications with antiviral activity against influenza viruses are commercially available in the United States (amantadine, rimantadine, oseltamivir, zanamivir). The four drugs are classified into two categories, the adamantane derivatives and the neuraminidase inhibitors, on the basis of their chemical properties and activities against influenza viruses. Controlled clinical trials have demonstrated the efficacy of all four antiviral medications in reducing symptom duration when used for treatment of influenza infections. Three of the antiviral drugs have been approved for use as chemoprophylaxis. However, all the drugs may not always work against different influenza virus strains because these can become resistant to one or more of these medicines.

2005-06 Antiviral Usage Recommendation

Antiviral testing results of influenza A viruses circulating among people in the United States during the 2005-2006 season indicate that a high proportion of currently circulating viruses are resistant to amantadine and rimantadine. Based on this information, CDC issued a Health Alert Network advisory on January 16, 2006, recommending against the use of amantadine and rimantadine for the treatment or prophylaxis of influenza in the United States during the 2005ñ06 influenza season: www.cdc.gov/flu/han011406.htm. Oseltamivir or zanamivir should continue to be used for the treatment and prophylaxis of influenza. Table 1 summarizes information about the use of antiviral medications in the United States for influenza.

Neuraminidase Inhibitors (Zanamivir, Oseltamivir)

The neuraminidase inhibitors, zanamivir and oseltamivir, are chemically related drugs that have activity against both influenza A and B viruses.

- Zanamivir is an orally inhaled powdered drug that is approved for treatment of influenza in persons aged 7 years and older. Zanamivir is not approved for chemoprophylaxis of influenza.
- Oseltamivir is an orally administered capsule or oral suspension that is approved for treatment of influenza in persons aged 1 year and older. Oseltamivir is also approved for chemoprophylaxis of influenza in persons aged 1 year and older.

How do the neuraminidase inhibitor drugs work?

Zanamivir and oseltamivir block the active site of the influenza viral enzyme neuraminidase, which is common to both influenza A and influenza B viruses. This effect results in viral aggregation at the host cell surface and reduces the number of viruses released from the infected cell.

How effective are the neuraminidase inhibitor drugs?

Treatment

When used within 48 hours of illness onset, both drugs decrease shedding and reduce the duration of influenza symptoms by approximately 1 day compared with placebo. Summary results from randomized, placebo-controlled double-blinded studies of oseltamivir showed a significant reduction in influenza related lower respiratory tract complications (pneumonia and bronchitis) associated with antibiotic use and a

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Antiviral Agents for Influenza: Background Information for Clinicians
(continued from previous page)

significant reduction in hospitalizations. These impacts occurred in both healthy and high-risk adolescents and adults. No studies have assessed the impact of antiviral drug therapy on mortality. For both drugs, the recommended duration of treatment is 5 days. One study of healthy and high-risk adolescents and adults treated with oseltamivir compared with placebo showed a reduction in influenza-related lower respiratory tract complications associated with antibiotic therapy.

Chemoprophylaxis
Oseltamivir, but not zanamivir, is approved for chemoprophylaxis of influenza.

Side effects of the neuraminidase inhibitor drugs:
Zanamivir and oseltamivir were approved in 1999, and therefore clinical experience to assess adverse effects is limited.

- Oseltamivir has been associated with nausea and vomiting during controlled treatment studies compared with placebo.
- Nausea, diarrhea, dizziness, headache, and cough have been reported during zanamivir treatment, but the frequencies of adverse events were similar to inhaled powdered placebo drug.
- Few serious central nervous system (CNS) adverse effects have been reported for the neuraminidase inhibitor drugs.
- Zanamivir generally is not recommended for use in persons with underlying respiratory disease because of the risk of precipitating bronchospasm. Serious adverse respiratory events resulting from zanamivir use have been reported in persons with chronic pulmonary disease and in healthy adults.
- There are limited data about the use of neuraminidase inhibitors during pregnancy.

Antiviral resistance to the neuraminidase inhibitor drugs:
Data are limited on antiviral resistance to the neuraminidase inhibitor drugs.

- Studies have identified some evidence for the development of neuraminidase inhibitor-resistant influenza virus strains, but the studies have been limited by the short time that the neuraminidase inhibitors have been available for clinical use and by the lack of optimal methodology to detect viral resistance to these drugs.
- One pediatric study of oseltamivir treatment reported that 5.5% of influenza isolates had evidence of neuraminidase resistance.
- In vitro studies have found that cross-resistance occurs between the neuraminidase inhibitor drugs, but does not affect susceptibility to adamantane drugs.

Adamantane Derivatives (Amantadine, Rimantadine)

CDC recommends against the use of amantadine or rimantadine for the treatment or prophylaxis of influenza in the United States during the 2005-2006 influenza season.

On the basis of available antiviral testing results, CDC is providing an interim recommendation (see www.cdc.gov/flu/han011406.htm) that neither amantadine nor rimantadine be used for the treatment or prophylaxis of influenza A in the United States for the remainder of the 2005ñ06 influenza season. Oseltamivir or zanamivir should continue to be used for the treatment and prophylaxis of influenza. Testing of influenza isolates for resistance to antivirals will continue throughout the 2005ñ06 influenza season and recommendations will be updated as needed. Annual influenza vaccination remains the primary means of preventing morbidity and mortality associated with influenza.

The adamantane derivatives, amantadine and rimantadine, are chemically related, orally administered drugs that are approved for treatment and chemoprophylaxis of influenza A. Amantadine and rimantadine specifically inhibit replication of influenza A viruses, but not influenza B viruses.

Antiviral Agents for Influenza: Background Information for Clinicians
(continued from previous page)

- Amantadine is approved for the treatment of influenza A in children aged 1 year and older and in adults.
- Rimantadine is approved for treatment of influenza A in adults.
- Both drugs are approved for chemoprophylaxis to prevent influenza A in people aged 1 year and older.

Antiviral activity: How do the adamantane drugs work?
Amantadine and rimantadine are thought to interfere with influenza A virus M2 protein, a membrane ion channel protein, and inhibit virus uncoating, which inhibits virus replication, resulting in decreased viral shedding.

How effective are the adamantane drugs?
Treatment
When administered within 48 hours of illness onset, controlled studies have found that both drugs decrease viral shedding and reduce influenza A illness by approximately 1 day compared with placebo. The usual recommended duration of treatment is 5 days.

Chemoprophylaxis
When used for chemoprophylaxis, amantadine and rimantadine are approximately 70% - 90% effective in preventing symptoms of influenza A illness. The efficacy and effectiveness of amantadine and rimantadine to prevent complications of influenza A are unknown. Both drugs are effective when used for chemoprophylaxis during outbreaks of influenza A in institutions, such as nursing homes.

Side effects of the adamantane drugs:
Chemoprophylactic use of both drugs has been associated with
- Gastrointestinal and central nervous system (CNS) adverse effects in healthy adults and elderly nursing home residents.
- CNS toxicity, such as lightheadedness, difficulty concentrating, nervousness, insomnia, and seizures in patients with pre-existing seizure disorders. Rimantadine use has been associated with fewer CNS side effects than amantadine.

Amantadine is teratogenic and embryo toxic in animals. Rimantadine has not been found to be mutagenic. The safety of amantadine and rimantadine when used during pregnancy has not been established.

Antiviral resistance:
When used for treatment, amantadine and rimantadine have been associated with the rapid development of resistant viruses.
- Drug-resistant viruses can be spread to contacts of treated individuals, including persons receiving chemoprophylaxis.
- The mechanism of resistance is the same for both adamantane derivatives, and influenza A viruses resistant to one drug are also resistant to the other.
- No evidence indicates that adamantane-resistant viruses are more transmissible or more virulent than adamantane-sensitive viruses.
- Resistance to adamantanes does not affect susceptibility to neuraminidase inhibitors.
- Most influenza viruses isolated from the general population are not resistant to amantadine or rimantadine.

Adamantanes Compared with Neuraminidase Inhibitors
- No controlled studies have directly compared the adamantanes (amantadine, rimantadine) with the neuraminidase inhibitors (zanamivir, oseltamivir) for treatment or chemoprophylaxis of influenza A.

Antiviral Agents for Influenza: Background Information for Clinicians
(continued from previous page)

A meta-analysis and a systematic review of published studies concluded that both the adamantanes and the neuraminidase inhibitor drugs reduce the duration of symptoms of influenza A by approximately 1 day compared with placebo.

- Data are very limited on the efficacy or effectiveness of any of the antiviral drugs in preventing complications from influenza in high-risk populations.
- The costs, routes of administration, adverse effects, contraindications, and potential for antiviral resistance differ among the four drugs.
- There are insufficient data on the use of any of the four antiviral agents during pregnancy.
- In general, clinical studies have reported that the neuraminidase inhibitors have resulted in fewer serious side effects compared to placebo than have been reported for amantadine and rimantadine. However, the relative frequency or severity of adverse effects of the adamantanes compared with the neuraminidase inhibitors has not been directly compared in controlled trials when used for treatment or chemoprophylaxis.

Antiviral Agents for Influenza: Background Information for Clinicians
(continued from previous page)

Table 1: Recommended Daily Dosage of Influenza Antiviral Medications for Treatment and Prophylaxis

Antiviral Agent	Age Groups (yrs)				
	1-6	7-9	10-12	13-64	≥65
Amantadine*					
Treatment, influenza A	5mg/kg/day up to 150 mg in 2 divided doses[Ü]	5mg/kg/day up to 150 mg in 2 divided doses[Ü]	100mg twice daily[ß]	100mg twice daily[ß]	≤100 mg/day
Prophylaxis, influenza A	5mg/kg/day up to 150 mg in two divided doses[Ü]	5mg/kg/day up to 150 mg in two divided doses[Ü]	100mg twice daily[ß]	100mg twice daily[ß]	≤100 mg/day
Rimantadineə					
Treatment,** influenza A	NA[ÜÜ]	NA	NA	100mg twice daily[ß ßß]	100 mg/day
Prophylaxis, influenza A	5mg/kg/day up to 150 mg in two divided doses[Ü]	5mg/kg/day up to 150 mg in two divided doses[Ü]	100mg twice daily[ß]	100mg twice daily[ß]	100 mg/day[əə]
Zanamivir* ÜÜÜ**					
Treatment, influenza A and B	NA	10mg twice daily	10mg twice daily	10mg twice daily	10mg twice daily
Oseltamivir					
Treatment, [ßßß] influenza A and B	Dose varies by childís weight[əəə]	Dose varies by childís weight[əəə]	Dose varies by childís weight[əəə]	75mg twice daily	75mg twice daily
Prophylaxis, influenza A and B	Dose varies by childís weight[əəəə]	Dose varies by childís weight[əəəə]	Dose varies by childís weight[əəəə]	75mg/day	75mg/day

NOTE: Amantadine manufacturers include Endo Pharmaceuticals (Symmetrel Æ--tablet and syrup) and Geneva Pharms Tech (Amantadine HCL--capsule); USL Pharma (Amantadine HCL ñ capsule and tablet); and Alpharma, Carolina Medical, Copley Pharmaceutical, HiTech Pharma, Mikart, Morton Grove, and Pharmaceutical Associates (Amantadine HCL--syrup). Rimantadine is manufactured by Forest Laboratories (Flumadine (R)--tablet and syrup); Corepharma , Impax Labs (Rimantadine HCL ñ tablet), and Amide Pharmaceuticals (Rimantadine HCL ñ tablet). Zanamivir is manufactured by Glaxo Smithkline (Relenza (R) -- inhaled powder). Oseltamivir is manufactured by Hoffman-LaRoche, Inc. (Tamiflu (R) ó tablet). Information based on data published by the US Food and Drug Administration at www.fda.gov.

* The drug package insert should be consulted for dosage recommendations for administering amantadine to persons with creatinine clearance ≤50 ml/min/1.73m^2 .

[Ü] 5 mg/kg of amantadine or rimantadine syrup = 1 tsp/22 lbs.

[ß] Children 10 years who weigh <40 kg should be administered amantadine or rimantadine at a dosage of 5 mg/kg/day.

[ə] A reduction in dosage to 100 mg/day of rimantadine is recommended for persons who have severe hepatic dysfunction or those with creatinine clearance ≤10 mL/min. Other persons with less severe hepatic or renal dysfunction taking 100 mg/day of rimantadine should be observed closely, and the dosage should be reduced or the drug discontinued, if necessary.

** Only approved by FDA for treatment among adults.

[ÜÜ] Not applicable.

ßß Rimantadine is approved by FDA for treatment among adults. However, certain experts in the management of influenza consider it appropriate also for treatment among children. (See American Academy of Pediatrics, 2000 Red Book.)

[ə ə] Older nursing-home residents should be administered only 100 mg/day of rimantadine. A reduction in dosage to 100 mg/day should be considered for all persons aged 65 years if they experience possible side effects when taking 200 mg/day.

***Zanamivir administered via inhalation using a plastic device included in the medication package. Patients will benefit from instruction and demonstration of the correct use of the device.

[ÜÜÜ]Zanamivir is not approved for prophylaxis.

[ßßß] A reduction in the dose of oseltamivir is recommended for persons with creatinine clearance <30 ml/min.

[əəə] The dose recommendation for children who weigh ≤15 kg is 30 mg twice a day, for >15 to 23 kg children the dose is 45 mg twice a day, for >23 to 40 kg children the dose is 60 mg twice a day, and for children >40 kg, the dose is 75 mg twice a day.

[əəəə] The dose recommendation for children who weigh ≤ 15 kg is 30 mg once a day, for >15 to 23 kg children the dose is 45 mg once a day, for >23 to 40 kg children the dose is 60 mg once a day, and for children >40 kg, the dose is 75 mg once a day.

Antiviral Agents for Influenza: Background Information for Clinicians
(continued from previous page)

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NYC DOHMH Advises Against Prescribing Antiviral Medications for Personal Stockpiling

Concern about the spread of avian influenza A (H5N1) has caused many individuals in New York City to ask their health care providers for prescriptions for the antiviral medication oseltamivir (trade name Tamiflu®, manufactured by Roche). Others have attempted to purchase this drug over the Internet. However, the New York City Department of Health and Mental Hygiene (DOHMH) strongly advises physicians in New York City against providing patients with prescriptions for oseltamivir for the sole purpose of allowing them to have a personal stockpile in the event of a pandemic. The arguments against personal antiviral stockpiles are outlined below.

Background

Avian influenza A (H5N1) infections in wild birds and poultry have spread from Eastern Asia to Central Asia, and most recently have been identified in Turkey and Romania. Since 2003, over 100 million domestic birds have been affected by the current avian outbreak.

Since 2004, human cases have been limited to Eastern Asia (Cambodia, Indonesia, Thailand, Vietnam, and China). As of December 2005, over 130 human cases have been reported, the mortality rate is currently 51%, and individual cases and occasional family clusters continue to be identified (WHO. New Engl J Med 2005 http://content.nejm.org/cgi/content/full/353/13/1374 and the WHO Avian Influenza website http://www.who.int/csr/disease/avian_influenza/en/)

However, almost all human cases of avian influenza have been associated with exposure to ill or infected poultry. Only in a few cases has exposure to infected persons been implicated. At the current time, avian influenza is not efficiently transmitted person-to-person. This is a necessary component for influenza A (H5N1) or any other influenza virus to evolve into the next pandemic strain of influenza.

While pandemic influenza is considered inevitable, it may not be due to influenza A (H5N1). In order to prepare for the next pandemic of influenza, local, state, and federal health authorities in the U.S. and in other countries are preparing plans to attenuate the impact of a pandemic to the extent possible.

In the event of a flu pandemic, it is likely that a vaccine to protect people from the disease will not be available for approximately six months. Federal authorities are working with vaccine manufacturers to identify ways to accelerate vaccine production, and to increase the U.S. stockpile of antiviral medications.

Recommendations of the New York City Department of Health and Mental Hygiene (DOHMH)

DOHMH does **not** recommend personal stockpiling of oseltamivir or other antiviral agents for the following reasons:

- Personal stockpiles of oseltamivir will compound the existing problems with availability of this antiviral agent in the United States during the upcoming influenza season for those who may need it most. Commercial supplies of oseltamivir are expected to improve gradually over the next few years and the national stockpile will increase as well.
- The existing, limited supplies of oseltamivir and other antiviral agents should be prioritized as outlined below.
  - The highest current priority for use of oseltamivir is for **treatment** of people during the upcoming regular influenza season who are at highest risk from serious complications from influenza infection (e.g., persons >65 years, children 6-23 months of age, and persons with certain chronic diseases).
  - The next highest priority for use of oseltamivir (and other influenza antiviral medications) is for **prophylaxis** in persons at high risk of serious complications from influenza infection who are exposed to influenza (e.g., a hospital or nursing home with an outbreak of influenza, or a household in which someone has been diagnosed with influenza) during the regular influenza season.
- Inappropriate and inconsistent use of oseltamivir may increase resistance to oseltamivir in both avian and non-avian strains of influenza viruses. The sub-inhibitory concentrations of antiviral agents that might result from inappropriate and inconsistent use are particularly likely to induce resistance. This would seriously affect the ability to use this antiviral medication for avian influenza, as well as other circulating influenza strains.
- To date, almost all cases of avian influenza in humans have been associated with exposure to infected birds rather than person-to-person transmission. Therefore, there is currently no evidence that H5N1 has developed the potential to cause a pandemic given the absence of effective human to human transmission.
- Four drugs are licensed for the treatment or prophylaxis of influenza infections: the adamantanes (amantadine and rimantadine) and the neuraminidase inhibitors (oseltamivir and zanamivir). Widespread resistance to the adamantanes has been reported in currently circulating avian influenza viruses. Most avian influenza viruses are currently susceptible to oseltamivir and zanamivir in vitro, but it is unknown whether use of these drugs is clinically beneficial since systematic studies of their use have not been performed in humans infected with avian influenza.
- If a non-H5N1 strain of influenza emerges to cause widespread human illness, it is not possible to predict which antiviral agent would be most effective.
- Personal stockpiles of oseltamivir may actually increase the potential for harm when used without consulting a health care provider. All antiviral medications are associated with side effects of varying degrees. An individual might take an antiviral when it is not appropriate (e.g., when an antibiotic is indicated) or when it is not needed (e.g., when they have an upper respiratory infection). In addition, oseltamivir may have interactions with other medications that an individual is taking.

- Oseltamivir is expensive (currently $65.99 for a 10-pill bottle, which is equivalent to a 5 day course of treatment). If one were to use it for prophylaxis, the course would extend for weeks or months, adding significantly to the cost.
- Oseltamivir has a limited shelf life. When stored properly, capsules are only guaranteed for 5 years, and the oral suspension for 2 years. No one knows when a pandemic will arise, and if his or her personal stockpiles will still be potent.

Personal Protective Measures to Prevent Influenza and Avian Influenza

Health care providers should review with their patients the steps outlined below which may minimize risk of acquiring and spreading both human influenza strains and other respiratory infections.

1. **Get an influenza shot annually.**
   The current influenza vaccine formulation is not protective against avian influenza. However, a recent study suggests annual influenza immunization of the elderly has a cumulative protective effect, resulting in reduced mortality, particularly in older individuals.
2. **Wash your hands.**
   Wash your hands often with soap and warm water or use an alcohol based hand sanitizer.
3. **Avoid touching your eyes, nose or mouth.**
   This decreases the chance that you will introduce influenza virus and other infectious agents into parts of your body where infection can begin. It also decreases your potential infectiousness to others.
4. **Cover your mouth when you cough or sneeze.**
   Never cough in the direction of someone else. Cough or sneeze into a tissue.
5. **Clean things that are touched often.**
   Clean things that are touched often at home, work, or school like door or refrigerator handles, computer key boards / mouse, phone and water faucets.
6. **Avoid close contact with others who are ill.**
   Avoid holding, hugging or kissing anyone who has a cold or the flu.
7. **Avoid crowded conditions when possible.**
   Do not take persons at high risk for influenza into large crowds during influenza season unless necessary.
8. **Stay home when you are ill.**
   If you have flu symptoms, stay home from work or school and avoid public activities for at least 5 days (7 days for children).
9. **Those at risk for serious complication should receive a pneumococcal vaccination.**
   Secondary bacterial pneumonia is a common complication of influenza, a large proportion of which is due to the pneumococcus. It is likely to be the same with pandemic strains.

Administering vaccine to people at risk for pneumococcal disease protects them now and during the next pandemic.

10. Take precautions when traveling to areas affected by avian influenza.
CDC does not currently recommend avoiding travel to countries affected by avian influenza. However, it does recommend avoiding all direct contact with poultry (including touching well-appearing, sick or dead chickens and ducks). It also recommends avoiding places such as poultry farms and bird markets where live birds are raised or kept, and avoiding the handling of surfaces contaminated with poultry feces or secretions.

For additional travel information, visit CDC's Travelers' Health Webpage on Southeast Asia at http://www.cdc.gov/travel/seasia.htm to educate yourself and others who may be traveling with you about any disease risks and CDC health recommendations for international travel in areas you plan to visit. For a list of affected areas and other information about avian influenza, see the following websites: CDC's Avian Influenza Website http://www.cdc.gov/flu/avian/index.htm or The World Organization for Animal Health http://www.oie.int/eng/en_index.htm.

For more information visit:

- DOHMH Influenza Website: http://www.nyc.gov/html/doh/html/imm/fluhome.shtml
- CDC influenza website: www.cdc.gov/flu
- WHO avian influenza website: http://www.who.int/csr/disease/avian_influenza/en/index.html

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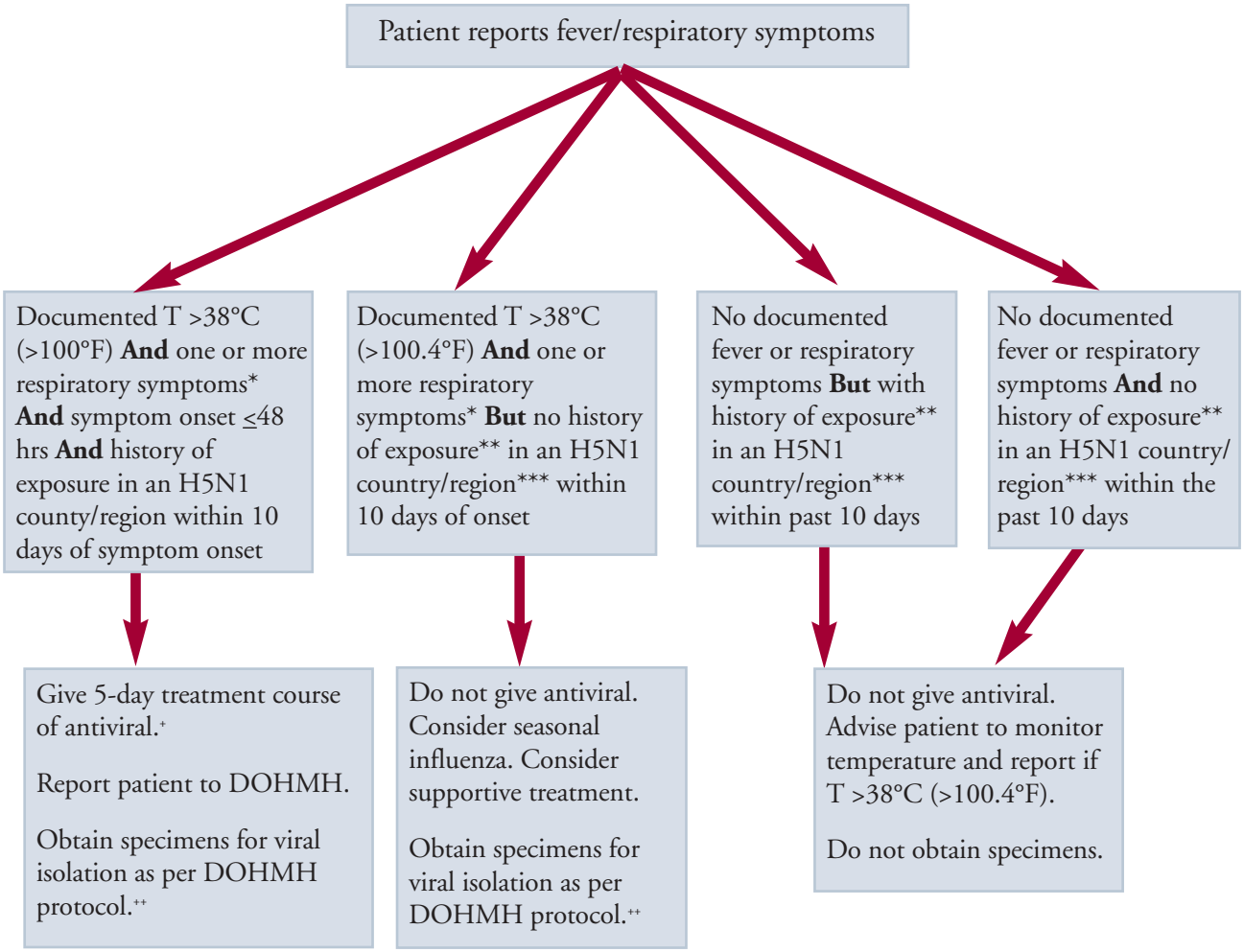
* Adapted from recommendations made by the Massachusetts Department of Public Health

Algorithm for Pandemic Influenza Treatment: Outpatient Setting, Early Pandemic — No NYC Cases



* Respiratory symptoms include: cough, sore throat, and/or shortness of breath (dyspnea).

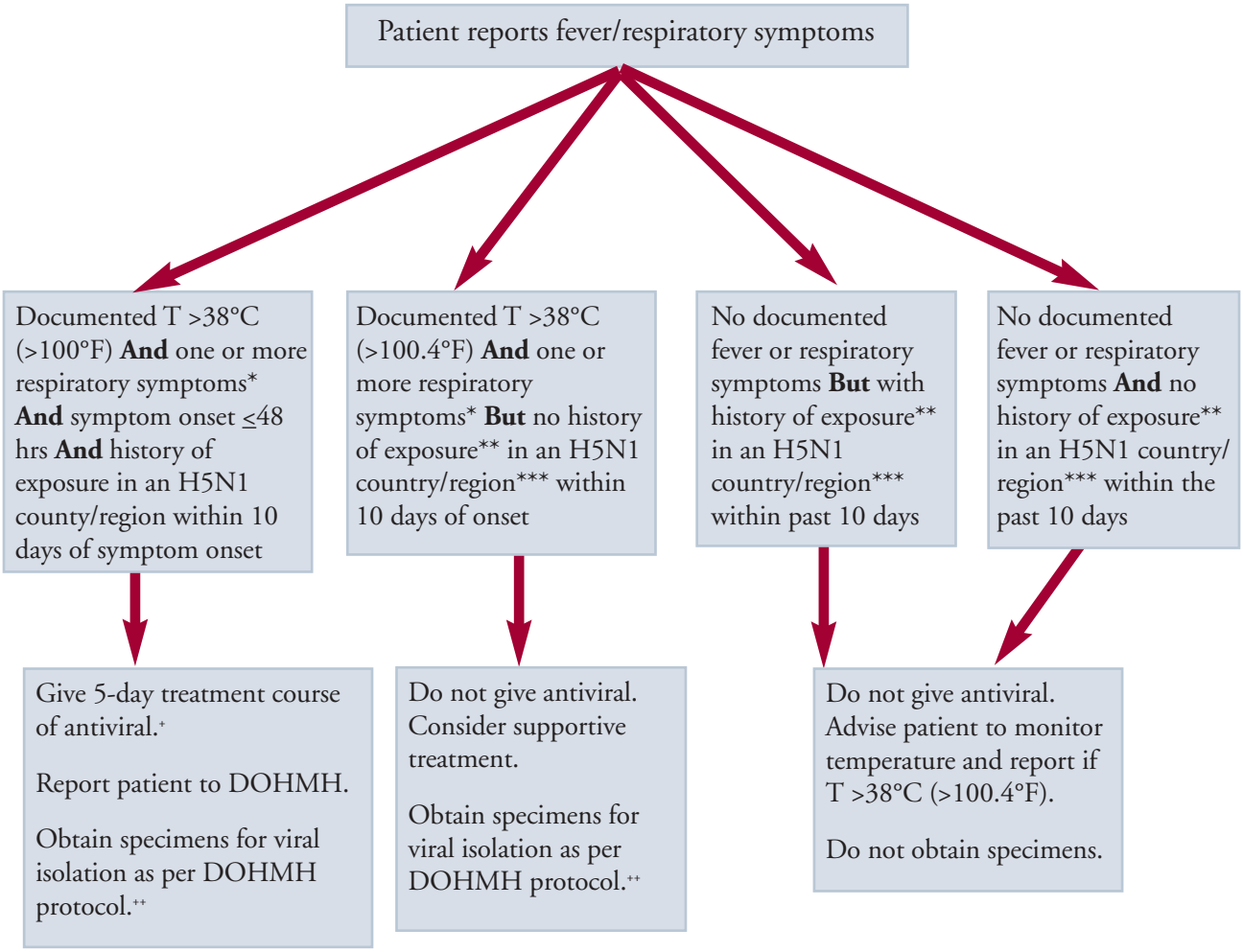
** History of exposure is defined as one of the following: direct contact with domestic poultry (e.g. touching sick or dead chickens or ducks or well appearing ducks); OR consumption of uncooked poultry or poultry products; OR direct contact with surfaces contaminated with poultry feces (e.g. while visiting a live poultry farm, household raising poultry, or bird market); OR close contact (within 1 meter) of a known or suspected case of H5N1.

*** See one of the following links for updated list of countries/regions: World Health Organization www.who.int/csr/disease/avian_influenza/country/en/index.html or World Organization for Animal Health http://www.oie.int/eng/en_index.htm

\+ See attached Antiviral Information Sheet for Providers to determine dose. Antiviral treatment is not FDA-approved for treatment of children < 1 year and of pregnant women and any use in these patients would be off-label.

++ Please refer to DOHMH protocol for specimen collection and submission. Specimens are for surveillance purposes and treatment should be offered based on clinical suspicion.

Algorithm for Pandemic Influenza Treatment: Outpatient Setting, Early Pandemic — NYC Cases Geographically Contained



* Respiratory symptoms include: cough, sore throat, and/or shortness of breath (dyspnea).

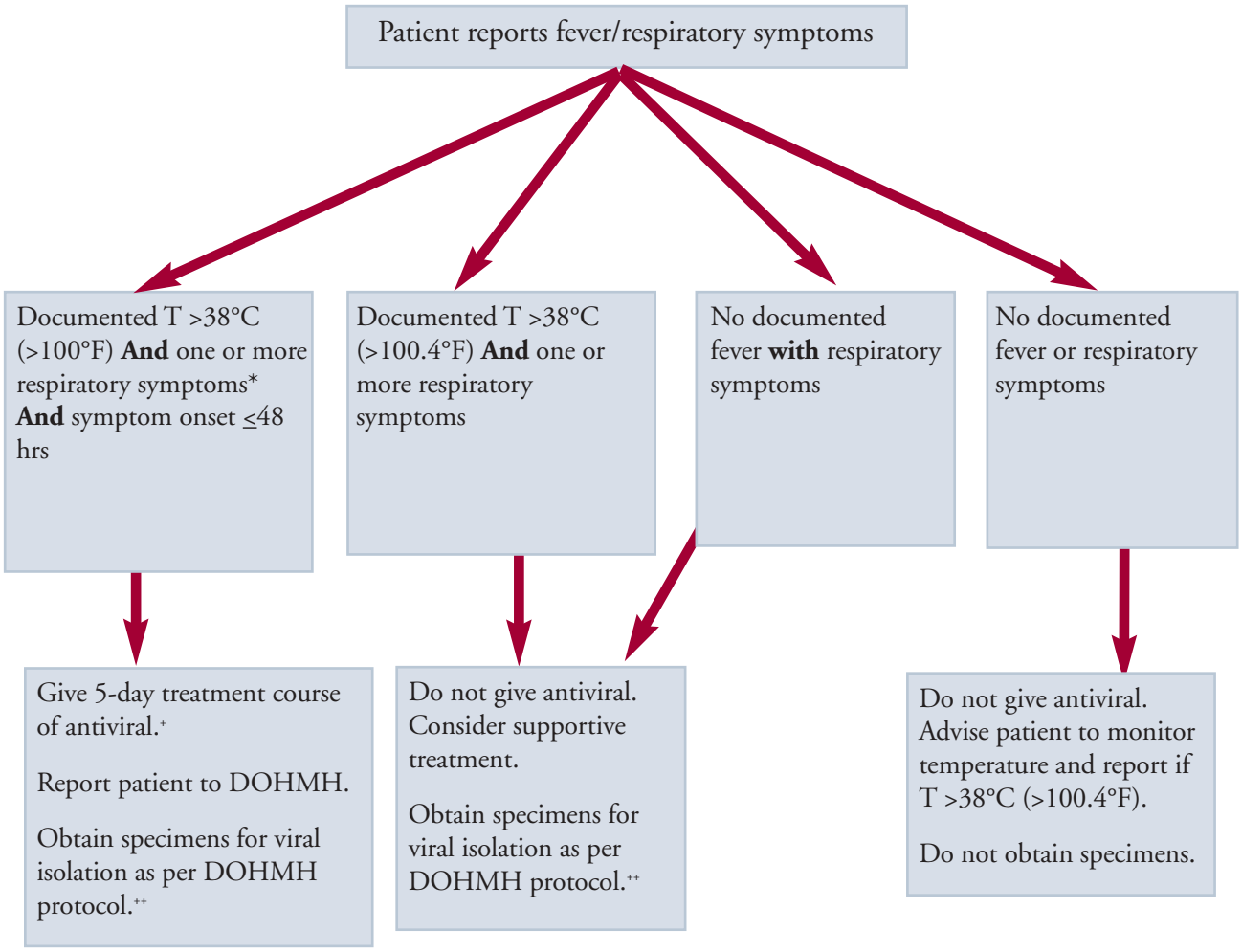
** History of exposure is defined as one of the following: direct contact with domestic poultry (e.g. touching sick or dead chickens or ducks or well appearing ducks); OR consumption of uncooked poultry or poultry products; OR direct contact with surfaces contaminated with poultry feces (e.g. while visiting a live poultry farm, household raising poultry, or bird market); OR close contact (within 1 meter) of a known or suspected case of H5N1.

*** See one of the following links for updated list of countries/regions: World Health Organization www.who.int/csr/disease/avian_influenza/country/en/index.html or World Organization for Animal Health http://www.oie.int/eng/en_index.htm

\+ See attached Antiviral Information Sheet for Providers to determine dose. Antiviral treatment is not FDA-approved for treatment of children < 1 year and of pregnant women and any use in these patients would be off-label.

++ Please refer to DOHMH protocol for specimen collection and submission. Specimens are for surveillance purposes and treatment should be offered based on clinical suspicion.

Algorithm for Pandemic Influenza Treatment: Outpatient Setting, Pandemic Widespread in NYC



* Respiratory symptoms include: cough, sore throat, and/or shortness of breath (dyspnea).

\+ See attached Antiviral Information Sheet for Providers to determine dose. Antiviral treatment is not FDA-approved for treatment of children < 1 year and of pregnant women and any use in these patients would be off-label.

++ Please refer to DOHMH protocol for specimen collection and submission. Specimens are for surveillance purposes and treatment should be offered based on clinical suspicion.

Whenever possible, collect NP specimen and submit for culture (for surveillance purposes).

Recommended Daily Dosages of Antivirals for Treatment and Prophylaxis*

	Age Groups (years)				
Antiviral Agent	**1-6**	**7-9**	**10-12**	**13-64**	**≥65**
Amantadine[a]					
Treatment, influenza A	5mg/kg body weight/day up to 150 mg in two divided doses[b]	5mg/kg body weight/day up to 150 mg in two divided doses[b]	100 mg twice daily[c]	100 mg twice daily[c]	≤100 mg/day
Prophylaxis, influenza A	5mg/kg body weight/day up to 150 mg in two divided doses[b]	5mg/kg body weight/day up to 150 mg in two divided doses[b]	100 mg twice daily[c]	100 mg twice daily[c]	≤100 mg/day
Rimantadine[d]					
Treatment[e], influenza A	NA[f]	NA	NA	100 mg twice daily[c,g]	100 mg/day
Prophylaxis, influenza A	5mg/kg body weight/day up to 150 mg in two divided doses[b]	5mg/kg body weight/day up to 150 mg in two divided doses[b]	100 mg twice daily[c]	100 mg twice daily[c]	100 mg/day[h]
Zanamivir[i, j]					
Treatment, influenza A and B	NA	10 mg twice daily	10 mg twice daily	10 mg twice daily	10 mg twice daily
Oseltamivir					
Treatment,[k] influenza A and B	Dose varies by child's weight[l]	Dose varies by child's weight[l]	Dose varies by child's weight[l]	75 mg twice daily	75 mg twice daily
Prophylaxis, influenza A and B	NA	NA	NA	75 mg/day	75 mg/day

* (Adapted from Prevention and Control of Influenza Recommendations of the Advisory Committee on Immunization Practices [ACIP], July 2005)
NOTE: Amantadine manufacturers include Endo Pharmaceuticals (Symmetrel (R)-tablet and syrup) and Geneva Pharms Tech (Amantadine HCL-capsule); USL Pharma (Amantadine HCL-capsule and tablet); and Alpharma, Carolina Medical, Copley Pharmaceutical, HiTech Pharma, Mikart, Morton Grove, and Pharmaceutical Associates (Amantadine HCL-syrup), and Sandoz. Rimantadine is manufactured by Forest Laboratories (Flumadine (R)-tablet and syrup); Corepharma , Impax Labs (Rimantadine HCL-tablet), and Amide Pharmaceuticals (Rimantadine HCL-tablet). Zanamivir is manufactured by GlaxoSmithKline (Relenza (R)-

inhaled powder). Oseltamivir is manufactured by Roche Pharmaceuticals (Tamiflu (R)-tablet). Information based on data published by the U.S. Food and Drug Administration at www.fda.gov, accessed 3/30/2005.

[a] The drug package insert should be consulted for dosage recommendations for administering amantadine to persons with creatinine clearance ≤50 ml/min/1.73m2 .

[b] 5 mg/kg body weight of amantadine or rimantadine syrup = 1 tsp/2.2 lbs.

[c] Children aged ≥10 years who weigh <40 kg should be administered amantadine or rimantadine at a dosage of 5 mg/kg body weight /day.

[d] A reduction in dosage to 100 mg/day of rimantadine is recommended for persons who have severe hepatic dysfunction or those with creatinine clearance ≤10 mL/min. Other persons with less severe hepatic or renal dysfunction taking 100 mg/day of rimantadine should be observed closely, and the dosage should be reduced or the drug discontinued, if necessary.

[e] Approved by FDA only for treatment among adults.

[f] Not applicable.

[g] Rimantadine is approved by FDA for treatment among adults. However, certain experts in the management of influenza consider it appropriate for treatment among children. (See American Academy of Pediatrics, 2003 Red Book.)

[h] Older nursing-home residents should be administered only 100 mg/day of rimantadine. A reduction in dosage to 100 mg/day should be considered for all persons aged ≥65 years if they experience possible side effects when taking 200 mg/day.

[i] Zanamivir administered via inhalation using a plastic device included in the medication package. Patients will benefit from instruction and demonstration of the correct use of the device.

[j] Zanamivir is not approved for prophylaxis.

[k] A reduction in the dose of oseltamivir is recommended for persons with creatinine clearance <30 ml/min.

[l] The dose recommendation for children who weigh ≤15 kg is 30 mg twice a day. For children who weigh >15 to 23 kg, the dose is 45 mg twice a day. For children who weigh >23 to 40 kg, the dose is 60 mg twice a day. And for children who weigh >40 kg, the dose is 75 mg twice a day.

Section 7: Vaccine Management

OVERVIEW

This section describes the systems that will be used to order, store, distribute, and track influenza vaccine during a pandemic.

OBJECTIVES

The New York City Department of Health and Mental Hygiene (NYC DOHMH) vaccine management plan is aimed at effectively distributing influenza vaccine in the event of a flu pandemic through effective (1) procurement, (2) storage, (3) distribution, and (4) tracking of available vaccine.

ROLES AND RESPONSIBILITIES

In the event of a pandemic, influenza vaccine in NYC may be distributed via established vaccine distribution systems through hospitals, clinics, nursing homes, health care facilities, and private physician offices. In addition, if warranted, DOHMH is prepared to establish and operate Points of Distribution (PODs) at strategic locations throughout the 5 boroughs of NYC.

CHALLENGES

The amount of vaccine that will be ordered, stored, distributed, and accounted for by DOHMH will be affected by manufacturers' ability to produce and distribute vaccine, the proportion of available vaccine that will be purchased and distributed by the public vs. the private sector, and the amount of vaccine available for public purchase through federal contracts.

I. Interpandemic and Pandemic Alert Periods (WHO phases 1-5)

During normal, interpandemic periods, routine influenza vaccination activities will be ongoing. In accordance with CDC recommendations, DOHMH will work to achieve the following goals:

- Increase influenza vaccination rates in NYC to reduce the annual toll from influenza and enhance the existing vaccine delivery infrastructure by facilitating access and providing vaccine to:
  - 90% of non-institutionalized adults 65 years of age and older
  - 60% of high-risk adults 18 to 49 years of age
  - 90% of institutionalized, chronically ill, and/or elderly adults

In 2003, the influenza vaccination coverage rate for individuals 65 years of age and older was 65%; in 2004-2005 this number declined to approximately 55% due to the influenza vaccine shortage that season.

- Increase pneumococcal vaccination rates in NYC to reduce the incidence and severity of secondary bacterial infection now and during the next pandemic by providing pneumococcal vaccine to:
  - 90% of non-institutionalized adults aged 65 years or older
  - 60% of high-risk adults aged 18 to 64 years
  - 90% of institutionalized, chronically ill, and/or elderly adults

In 2004, pneumococcal vaccination coverage rate of individuals aged 65 years and older was 49%.

In years when flu vaccine is available, DOHMH generally provides vaccine to cover the needs of approximately 10% of individuals 65 years of age and older. DOHMH offers influenza vaccine each season at no cost to at-risk New Yorkers at City-run health centers and at clinics run at senior centers. Influenza vaccine is also given at no charge to clinics and centers that provide services to uninsured and vulnerable populations.

The flu vaccine shortages experienced during the 2004-2005 and 2005-2006 seasons provided valuable experiences (real life "drills") and lessons learned that have helped to inform vaccine distribution plans.

During the 2004-2005 season, NYC DOHMH responded to the shortage by running 34 PODs in addition to the regular health center vaccination clinics and senior center outreach clinics. These efforts led to the administration of influenza vaccine to over 60,000 New Yorkers. The large-scale vaccination clinic model was tested and DOHMH staff was trained in POD implementation.

During the 2005-2006 influenza season, DOHMH distributed over 338,000 doses of influenza vaccine to hospitals, clinics, nursing homes, assisted living facilities, adult homes, home care agencies, shelters, and private physicians who participate in the Vaccines for Children (VFC) program, as well as to physicians who were unable to purchase vaccine. This allowed identification of facilities and community providers who vaccinate adult patients and led to the initial development of a provider database.

The need to redistribute vaccine also provided the opportunity to identify organizations that serve vulnerable populations in order to ensure that they received flu vaccine. These included those listed above as well as agencies that serve people who are mentally retarded and developmentally disabled, AIDS clinics, dialysis centers, visiting nurse service agencies, and Rikers Island, among others. These same relationships would be used in planning for pandemic flu vaccine distribution.

Vaccine Ordering

- Generally, by mid-May of each year, DOHMH determines the quantity of annual influenza vaccine for purchase. The Centers for Disease Control and Prevention (CDC) notifies DOHMH about how much vaccine will be available for the City through a federal contract.
- In unusual years (e.g., the 2004-2005 season), vaccine may also be purchased through contracts negotiated directly between NYC and vaccine manufacturers, and through the Minnesota Multi-State contract, or contracts with other distributors.

Vaccine Storage

- Vaccine is stored at DOHMH Public Health Laboratory in Manhattan. This site contains 3 walk-in refrigerators with alarms (for notification of inappropriate temperatures or loss of power) dedicated to the storage of all vaccines purchased and distributed by DOHMH.
- Backup sites are currently being identified.
- Vaccine that is distributed through the VFC is sent by the manufacturer to a third party distributor and then directly to the end user.

Vaccine Distribution

- DOHMH distributes vaccine from its depot directly to child health clinics, DOHMH clinics, and a small number of other providers. Distribution is done through a combination of DOHMH transport and by facility pick up from the depot.
- As stated above, VFC is sent from a third party distributor directly to the end user.

Vaccine Security

- The Public Health Laboratory has onsite, around-the-clock security guards 24 hours a day, 7 days a week

Vaccine Accountability

- The Public Health Laboratory routinely maintains logs that record vaccine manufacturer, lot number, expiration date, quantity received, and site and date of distribution.
- VFC requires that providers who receive VFC vaccine complete a Doses Administered Report, which provides information on the vaccine given, dose, number of the vaccine, and age of the recipient. This form satisfies the requirements for compliance with federal vaccine administration. As of September 2006, all Doses Administered Reports will be produced automatically and based on the vaccine doses reported to the City-wide Immunization Registry (CIR). City Health Code requires reporting of all vaccine given to children age 18 and under to the CIR; this is the same age range covered by VFC.
- Vaccine administered through DOHMH is similarly tracked by reporting the number of vaccine doses given to different age groups.

II. Pandemic Period (WHO phase 6)

Vaccine Ordering

- During the pandemic period, DOHMH expects that monovalent, pandemic strain vaccine will be made available approximately 6 to 9 months after a pandemic is announced. Vaccine will be distributed incrementally (and in small quantities) over a period of many months. Pre-pandemic vaccine is being stockpiled by the federal government; however, its usefulness will depend on the degree to which the vaccine strain is a match for the pandemic strain. Given the expected limited

availability, it is probable that all vaccine will be restricted and controlled by the U.S. federal government.

- When vaccine initially becomes available, it is expected to be limited in quantity and distributed only through the public sector.
- As increased quantities of vaccine become available, it is likely that vaccine ordering will be decentralized and that the private sector will play an increasingly important role in the ordering and distribution of vaccine.

Vaccine Storage

- In a pandemic year, DOHMH will store monovalent pandemic influenza vaccine in refrigerators that can maintain the required temperature 2°-8°C (35°-46°F) and have alarms to signal inappropriate temperature or loss of power.
- Vaccine will be refrigerated immediately on arrival and stored at 2°-8°C (35°-46°F). Refrigerator temperatures will be continuously monitored and recorded.
- It is anticipated that storage capacity will be available for 20,000 10-dose vials (200,000 doses) at any given time, assuming that trivalent interpandemic vaccine will not be stored. Efforts are being made to identify additional cold storage space in the event that more vaccine is delivered at any one time.

Vaccine Security

- Public demands for existing vaccine are expected to be high and therefore security of available vaccine will be of great importance.
- The vaccine storage site will have around-the-clock security protection with restricted access.

Vaccine Distribution

- In the event of a pandemic, DOHMH expects to provide influenza vaccine as it becomes available. The method of distribution will depend on the amount of vaccine available. Operational plans are currently being developed.
- Early in the pandemic, DOHMH will receive and distribute all vaccine. At the earliest stages, vaccine may be distributed to hospitals, community health centers, other Article 28 facilities, and nursing homes to be used in accordance with defined priority groups.
- When there is a sufficient supply of vaccine, it is anticipated that vaccine will also be distributed through the private sector utilizing customary vaccine supply chains.
- When vaccine is shipped to the end user, the cold chain will be maintained by shipping it in insulated containers that can maintain the temperature at 2°-8°C (35°-46°F).
- If necessary from a public health and response perspective, DOHMH has a plan that will ensure vaccination of the entire NYC population through a system of 204 PODs. This plan calls for the

deployment of DOHMH personnel, other NYC employees, volunteers from the Medical Reserve Corps (MRC), and other potential volunteers.

- PODs, if indicated, are solely for the prophylaxis of individuals who are not already ill. People who report to POD sites and are symptomatic would not be admitted into the facility and would be redirected to an appropriate health care site.
- The plan is adaptable to accommodate the entire NYC population and to deal with any agent, whether naturally occurring or dispersed through an act of bioterrorism.
- Health care workers would receive a high priority for receipt of pandemic flu vaccine. To quickly and efficiently ensure a vaccinated health care force, vaccine would be distributed to health care facilities, which would be responsible for the vaccination of their staffs. These vaccinations would be conducted according to established priority groups.

Vaccine Accountability

- DOHMH plans to track all vaccinations with pandemic vaccine via the existing CIR. All vaccinations would be entered into the system for the duration of the vaccination activities.
- Modifications to the current system are needed and will include demographics, dose number (first or second), priority group, and where vaccine was given. The CIR will be modified to capture vaccine adverse events and link them to an individual vaccine.
- As in interpandemic years, logs will be maintained that record and account for pandemic influenza vaccine. These logs will include data about the manufacturer, lot number, expiration date, quantity received, and site and date of distribution.
- Vaccine accountability will be ensured by generating Doses Administered Reports based on the vaccine doses reported to the CIR. This system is currently being implemented for the VFC program. Additional shipments would be based on doses reported to the CIR.
- Other neighboring jurisdictions (e.g., other New York counties, New Jersey, and Connecticut) are expected to develop or leverage their own tracking systems. DOHMH is currently communicating with various regions to ensure the facilitation of information-sharing and to account for persons who may live in one jurisdiction and work in another.

Vaccine Planning

- Discussions aimed at developing realistic operational plans for vaccine distribution have been initiated with the medical community. Written documentation of adherence to vaccine administration guidelines, including adherence to priority groups for vaccinations, will be required from facilities receiving vaccine.
- Specific details for the establishment and implementation of the POD plan may be referenced in the NYC All-Hazards Plan.
- Depending on when vaccine becomes available, DOHMH plans to continue vaccination activities until all City residents have had adequate opportunity to receive vaccine. This would

include the period at the end of the first pandemic wave in expectation of a second wave involving the same pandemic strain.

- Vaccination is anticipated to be ongoing and vaccine will not be reserved to ensure second doses to individuals who received a first dose of vaccine.

Priority Groups

- Vaccine will be supplied incrementally over a period of months, requiring an appropriate prioritization scheme.
- The Table below details priority groups as prepared by the U.S. Department of Health and Human Services; DOHMH is expected to follow this protocol.
- Changes in the prioritization scheme may be needed and would depend on the epidemiological, clinical, and behavioral characteristics of the pandemic strain.

TABLE: NYC DOHMH VACCINE PRIORITY GROUPS

Group	Sub-group	Population	Rationale
I	A	Medical workers involved in direct direct patient contact, support services essential for direct patient care, workers critical to the public health response requiring case or patient contact, and vaccinators*	■ Health care workers are essential to NYC's pandemic response, and ensuring an adequate patient surge is key ■ Health care workers will be at higher risk for infection, and vaccination will help minimize the risk of nosocomial transmission
	B	■ Persons ≥65 years with 1 or more influenza high-risk conditions, not including essential hypertension ■ Persons aged 6 months-64 years with 2 or more influenza high-risk conditions, not including essential hypertension ■ Persons ≥6 months with history of hospitalization for pneumonia, influenza, or other influenza high-risk condition in the past year	■ These groups are at higher risk of hospitalization and death from seasonal influenza and are likely to be at highest risk during a pandemic ■ Excludes elderly in nursing homes and those who are immuno-compromised and would not likely be protected by vaccination, although final determination of criteria for this group will depend on the clinical and epidemiological characteristics of the pandemic strain

* HHS plan also includes vaccine and antiviral manufacturers. This group is not present in NYC and is therefore not included in DOHMH vaccine priority list.

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Group	Sub-group	Population	Rationale
	C	■ Pregnant women ■ Household contacts of severely immunocompromised persons who would not be vaccinated due to likely poor response to vaccine ■ Household contacts of children ≤6 months old	■ In past pandemics and annual influenza seasons, pregnant women have been at high risk; vaccination will also protect infants < 6 months of age from infected contacts (seasonal flu vaccine is not licensed for use in these infants) ■ Vaccination of household contacts of immuno-compromised and young infants will decrease risk of exposure and infection among those who cannot be directly protected by vaccination
	D	■ Other public health emergency response workers critical to pandemic response	■ Public health workers are critical to to implementing pandemic response such as managing and monitoring response activities
II	A	■ Healthy individuals aged ≥65 years ■ Individuals aged 6 months-64 years with 1 high-risk condition ■ Healthy children aged 6-23 months	■ Groups that are also at increased risk but not as high risk as the population in Group 1B
	B	■ Other public health emergency responders ■ Public safety workers including police, fire, 911 dispatchers, and correctional facility staff ■ Utility workers essential for maintenance of power, water, and sewage system function ■ Transportation workers who carry fuel, water, food, and medical supplies and public ground transportation workers ■ Telecommunications/IT workers essential for network operations and maintenance	■ Includes critical infrastructure groups that have an impact on maintaining health (e.g., public safety or transportation of medical supplies and food); those involved in implementing response to the pandemic; and on maintaining societal functions
III		■ Funeral directors/embalmers ■ Key public sector personnel not included in above categories	■ Other important societal groups for a pandemic response
IV		■ Healthy persons 2-64 years not included in above categories	■ All persons who want protection and do not fall under other groups

- Vaccine would be prioritized in order to maximally decrease mortality and to ensure maintenance of essential services, including delivery of health care services. Further sub-prioritization may be needed.

Developing and Implementing Operational Plans

- DOHMH has held drills to test its POD and mass vaccination clinic plans. In June 2005, the NYC DOHMH conducted a POD exercise that tested operation of 4 PODs simultaneously and a POD Operation Center. This drill included DOHMH and external agency volunteers as POD staff, and volunteers as patients.
- In November 2005, DOHMH held a large seasonal influenza vaccination clinic that was open to the public. This exercise, at which over 3,500 doses of influenza and pneumococcal vaccine were provided, was conducted as a POD exercise.
- These drills tested staff deployment, the setting up of PODs, logistics, staff training (advance and just-in-time), and shift changes. The POD plan is being updated and revised based on the outcome of these drills.
- Individuals in priority group I-A will likely be immunized in health care settings, including hospitals.
- Once vaccine is available for groups I-B and beyond, immunization will likely take place via a combination of health care settings, occupational health care sites, and PODs.
- The sites for over 200 PODs have been established and the locations will be made public once they are open to administer vaccine. The locations will be announced to the media as well as via the DOHMH Web site and 311.

Vulnerable Populations

- DOHMH recognizes that individuals in vulnerable and hard-to-reach populations require equal access to vaccine. To ensure equitable distribution, specific plans are under development to meet these individuals' needs.

  Children are included in priority groups I-B, I-C, II-A, and IV (see Table in this Section); eligibility includes underlying health status as well as age requirements. Seasonal influenza vaccine is approved for use in children beginning at 6 months of age and pandemic influenza vaccine will likely be similar in this regard. As previously stated, priority groups may change depending on the epidemiological and clinical characteristics of the pandemic strain; therefore, placement of children on the list is subject to change.

  A system is in place for distribution of pediatric vaccine through the VFC and for reporting of all vaccines given to children under 19 years of age to the CIR. A database of all medical providers who provide care to children is maintained and provides an existing infrastructure upon which to build in order to distribute vaccine and/or to communicate about the recommended use of vaccine for this population.

- **Homeless individuals** will be prioritized by their underlying health status and age in accordance with the Table. Vaccine distribution may be achieved via PODs and existing health facilities, including hospitals, community health centers, and other Article 28 facilities, and community health centers. Appropriate communication to this population will be imperative and is addressed in Section 9, Communications. Planning to serve this population will be done in collaboration with the Department of Homeless Services (DHS). Plans will be built on current experience of distribution of annual influenza vaccine to this population through DHS and their medical providers.
- **Homebound individuals** will be prioritized by their underlying health status and age in accordance with the Table. The Visiting Nurse Service of New York is an important partner of DOHMH, and discussions and planning are underway to include this population in the distribution of vaccine. Other home health agencies will be included in future planning at DOHMH. Planning for vaccine distribution to this population has begun with agencies that provide services to these individuals and will be built on the experience gained when influenza vaccine was provided to home care and visiting nurse service agencies during the shortage of 2003-2004.
- **Undocumented individuals** (those who do not have or cannot prove resident or citizen status) will be vaccinated without requirement of documentation and will be prioritized by their underlying health status, age, and criteria in the Table. PODs, hospitals, community health centers, and other Article 28 facilities may serve as vaccination sites; communication with this hard-to-reach population will be imperative (see Section 9, Communication).
- **Individuals in jails and prisons** will be prioritized according to their underlying health status and age as indicated in the Table. Planning has begun with the NYC Department of Correction and NYC DOHMH Correctional Health Services to include these individuals in the vaccination process. Plans will be built on current experience of distribution of annual influenza vaccine to this population through Correctional Health Services.

Second Wave

During the second wave, DOHMH will continue to work with appropriate partners to ensure that New Yorkers have maximum protection. Activities will include the distribution of influenza vaccine according to pre-designated priority groups on an as-needed basis to ensure that all New Yorkers have full opportunity to receive vaccine.

It is anticipated that once a sufficient supply of vaccine is available, much of the distribution and vaccination will take place in the private sector, including doctors' offices, as is usual for flu immunizations.

Section 8: Mental Health Response

OVERVIEW

The Mental Health Response section of the Plan describes systems that will be implemented to address the psychological consequences of an influenza pandemic in New York City (NYC). The planning for mental health (MH) interventions assumes that, while all New Yorkers will be affected to some extent, some groups are more vulnerable than others.

OBJECTIVES

In the event of a pandemic, the role of the Department of Health and Mental Hygiene's (DOHMH) Office of Mental Health Disaster Preparedness and Response (MHDPR) is to convene and coordinate the local response to NYC's MH needs, in collaboration with other City agencies.

ROLES AND RESPONSIBILITIES

The planning and implementation of MH interventions during an influenza pandemic will consider the special needs and circumstances of particular affected populations. Interventions will be tailored to people sick with influenza, those who have been exposed, first responders, and vulnerable or hard-to-reach populations.

Services will be targeted to New Yorkers with special needs during all phases of pandemic influenza. These include children, the elderly, people with mental or physical disabilities, those who live in congregate settings, non-English speakers, and hard-to-reach populations, such as the homeless, the homebound, and undocumented immigrants. (See appendices 8A and 8B for more details).

CHALLENGES

An influenza pandemic is likely to be associated with much more illness and many more deaths than seasonal flu outbreaks, and will cause considerable psychosocial and economic disruption. Addressing MH needs will help the public cope in a pandemic, supporting the effective implementation of medical and non-medical public health measures.

I. Interpandemic Periods (WHO phases 1 and 2)

Phase-Specific Mental Health Planning Principles

During the interpandemic period the activities of MHDPR are focused on addressing the MH issues associated with seasonal influenza as well planning for those that may be generated by a pandemic.

MHDPR collaborates with community- and faith-based organizations to ensure that MH planning, preparedness, and response to a pandemic is culturally appropriate. Throughout all phases of the

pandemic, MHDPR will coordinate MH planning and response activities with other government and non-government agencies, including:

- LIFENET
- Hospital-based associations (the Health and Hospitals Corporation [HHC] and Greater New York Hospital Association [GNYHA])
- The Office of Emergency Management
- Department of Education
- Department for the Aging
- Department of Homeless Services
- NYC Housing Authority
- NY Immigration Coalition
- Coalition of Voluntary Mental Health Agencies
- Voluntary Agencies Active in Disasters
- New York Disaster Interfaith Services
- The Office of Chief Medical Examiner
- NYC Police and Fire Departments
- The American Red Cross

Potential Phase-Specific Activities

- **Develop public education tools and materials**
  - With the assistance of Communications, identify and develop pandemic influenza-specific educational tools and materials regarding the signs of distress, traumatic grief, coping strategies, and building and sustaining personal and community resilience
  - Identify and list behavioral and psychological support resources
- **Increase awareness of potential mental health implications of an influenza pandemic**
  - Prepare and disseminate information about psychological reactions to public health emergencies and recommendations for positive coping strategies
  - Maintain an updated Web page containing information about pandemic influenza-related MH issues
  - Disseminate referral and professional help contact information using NYC's MH information and referral hotline (1-800-LIFENET)
- **Support mental health disaster training**
  - The aims of training initiatives are to:

  - Teach MH professionals (social workers, psychologists, psychiatrists, and psychiatric nurses) about the importance of self-care, and prepare them to provide adequate psychological support to patients and hospital staff during stressful circumstances.
  - Educate individuals who are not MH professionals (e.g., primary care doctors, nurses, emergency workers, community leaders, leaders of faith based organizations, educators, etc.) but who may be expected to provide psychological support during a pandemic.
- MHDPR activities may include
  - Curriculum development
  - Assessment of training needs
  - Provision of trainings through external agents
- Training audiences may include:
  - MHDPR's first responders: T-1 responders (community-based and professional agencies with pre-designated MH emergency response capability who have agreed to provide responders under the direction of MHDPR)
  - DOHMH contracted agencies: T-2 responders
  - Volunteer organizations (Medical Reserve Corps, NYC)
  - Private and municipal hospitals
  - Health care and other institutions (e.g., nursing homes)
  - Child care and education facilities
  - DOHMH offices and divisions
  - Other city and community agencies

■ **Monitor and evaluate selected groups to maintain up-to-date information on NYC's MH disaster response capacity and capability, including:**

- DOHMH
  - Monitor and evaluate the DOHMH's readiness to respond to the MH needs generated by disasters, including influenza pandemic
- Disaster MH responders
  - Survey and monitor the response capacity of T-1 responders
  - Monitor other agencies active in disaster MH response
- Hospital MH responders

    - Evaluate MH sections of hospitals' disaster plans, including review of sections relevant to pandemic influenza planning
    - Monitor and evaluate disaster MH-related trainings offered at hospitals
    - Monitor and evaluate hospitals' risk communication preparedness
  - Other health care providers
    - As appropriate, monitor the extended health care provider community's (e.g., primary health care providers) readiness to adequately respond to the MH needs generated by disasters, including pandemic influenza
  - Community and faith-based organizations
    - As appropriate, monitor and evaluate the disaster MH response capacity and capability of NYC communities and faith-based organizations

- **Test and update the disaster response system through exercises and drills**
  - Develop and implement drills and table-top exercises focused on MH disaster issues, including pandemic influenza
  - Participate in agency and City-wide drills and exercises
- **Develop partnerships for collaboration**
  - Identify federal, state, and local partners for collaboration, such as public health agencies and health departments; hospitals and private health care organizations; and community-based organizations
  - Sign professional agreements with MH health responders for coordinated planning and response
  - Develop a system for rapid activation of interagency communication for MH assessment and resource mobilization

II. Pandemic Alert Periods (WHO phases 3, 4, and 5)

Phase-Specific Mental Health Planning Principles and Assumptions

During the pandemic alert period, a dramatic increase in news coverage of global influenza will be expected. The psychological effects of the increased media coverage, as well as of the public health measures introduced, may require the limited, situation-appropriate activation of the MHDPR pandemic influenza response plan. Psychological issues requiring MH intervention during this phase may include:

- Increased but not excessive levels of the general public's and individuals' anxiety
- Increased but not overwhelming health care-seeking behavior

- Stigmatization of the sick and those assumed to have been exposed
- Psychological support of suspected cases placed in isolation and quarantine
- Psychological support of those caring for the sick, including health care providers and family members

Potential Phase-Specific Activities

- Activate the system for interagency collaboration to assess MH needs and mobilize resources.
- Assess MH needs in the community and in heath care facilities.
- Distribute and, if needed, develop new informational materials that appropriately reflect the current situation to educate the public about MH issues.. This may include updating Web sites, distributing leaflets and brochures, and creating and activating existing hotlines for referrals and information. (See in this Section "Potential Phase-Specific Activities,")
- Provide psycho-educational materials to health care providers.
- Assist agencies caring for the sick and those quarantined. (See in this Section "Potential Phase-Specific Activities.")
- Assist DOHMH contracted agencies.
- As appropriate, mobilize volunteer agencies to provide MH support. (See in this Section "Potential Phase-Specific Activities.")

III. Pandemic Period (WHO phase 6)

Phase-Specific Mental Health Planning Principles and Assumptions

- Given limited supplies and prioritization of treatment with antiviral drugs, and with vaccine likely not available for 6 to 9 months after a pandemic strain is identified in NYC, stress levels are expected to be high among New Yorkers, potentially undermining public trust and cooperation.
- Isolation and quarantine/social distancing, whether voluntary or involuntary, and whether in hospitals, single homes, or entire neighborhoods, can have a significant effect on psychological well-being.
- If establishing POD sites becomes necessary, considerable psychological and physical stress can be expected among visitors and staff. MHDPR will assess, monitor, and address the MH needs at PODs by mobilizing its MH first responders and by close collaboration with the local chapter of the American Red Cross.
- In mass fatality situations due to pandemic influenza, individuals may have to face, in addition to personal loss, restrictions that limit their freedom to mourn for and bury their dead in a timely fashion according to their cultural/religious beliefs. MHDPR will lead the effort to provide appropriate and culturally-sensitive MH support to individuals, their communities, and (if established), at Family Assistance Centers (FACs).

- To ensure that the psychological needs generated by a pandemic are adequately met, MHDPR will plan and coordinate response with the Office of Chief Medical Examiner (OCME) and the New York City Police Department (NYPD). In addition, MHDPR will actively collaborate with other agencies skilled in providing mental health support in mass fatality situations, such as the American Red Cross.
- MHDPR will deploy staff from its MH responder pool:
  - T-1 responders
  - T-2 responders
  - Medical Reserve Corps (MH professionals)
  - The American Red Cross
  - Community-based resources
  - State and out-of-state support resources
- MH needs during this phase may exceed available resources, requiring prioritization in distribution. MHDPR will attempt to meet increased needs by mobilizing additional resources.

Potential Phase-Specific Activities

- **Provide MH support at health care sites**
  As needed, MHDPR will monitor and support the provision of MH services at sites caring for influenza patients, including hospitals, community-based primary care centers, and temporary health care facilities. Activities include:
  - Assessing patients' and caretakers' MH needs
  - Providing technical support by disseminating needs-appropriate information
  - Providing 1-800-LIFENET information to hospital staff and patients
  - Collaborating with hospital behavioral health staff by:
    - Maintaining communication with GNYHA, HHC, and individual hospitals and hospital networks to obtain updates on functionality of hospitals and capacity to provide MH services.
    - Obtaining reports on surge capacity and working with DOHMH Bioterrorism Hospital Preparedness Planning (BHPP), New York State Department of Health (NYS DOH), GNYHA, HHC and individual hospitals to ensure that underutilized hospital MH staff is relocated to hospitals experiencing surge.
    - Assisting health care providers through increased public education to reduce anxiety-induced health care-seeking behavior.

  - Educating health and MH care providers about patients' and their own psychological needs and how to address them.
  - Supporting the hospitals' efforts to address the MH needs of those in isolation and those caring for them.
- Mobilizing and deploying DOHMH MH responders and identifying additional MH response resources as required.

■ **Support the general risk communication effort by providing MH-specific information in close collaboration with Communications**

- Prepare and distribute updated tip sheets and informational brochures
- Maintain an updated Web page
- Identify translation resources for addressing the psychological consequences of the pandemic in a culturally appropriate manner
- Open information and support hotlines as necessary (agencies in contract with DOHMH have been provided with a hotline number that will be activated in emergencies).
- Persons and agencies not affiliated with DOHMH programs will be notified via public announcements to contact 1-800-LIFENET should they require mental health support/referral.

■ **Address psychological needs in the event of mass vaccination**
Support vaccination-specific risk communication by preparing and providing information and tip sheets, both online and on-site, about the psychological effects of mass prophylaxis, including information regarding normal and abnormal stress reactions, coping and self-care tips, information for groups with special needs, and information on where and how to seek professional help and assistance.

- Support the effective operation of PODs by providing MH support, including:
  - Assessing specific needs for MH support
  - Mobilizing and deploying DOHMH MH responders
  - Collaborating with the American Red Cross for better service provision and utilization
  - Obtaining state or federal resources if the estimated need for MH support is greater than locally available resources

■ **Address MH issues associated with individual and community containment measures:**
MHDPR will ensure the provision of immediate and ongoing psychological support to alleviate the stress associated with isolation and quarantine/social distancing. Activities include:

- Assessing MH needs specific to community containment measures by:
  - Assessing the psychological needs of people and their family members in isolation and quarantine, and determining the extent and type of MH support they need

  - Assessing the psychological well-being and functioning of caretakers working with patients in isolation and quarantine to determine their need for MH support
  - Assessing the MH needs of populations affected by isolation and quarantine
  - Assessing the MH needs resulting from community control and containment measures, such as cancelled public events and school closures
- Providing MH information specific to community containment measures, such as:
  - Common psychological reactions to isolation and quarantine, and tips for coping
  - How and where to obtain professional MH and other assistance
  - Recommending that isolated and quarantined patients and their caretakers communicate with family members and friends by phone or e-mail
  - Identifying, developing, and distributing tools to prevent stigmatization
- Providing assistance by:
  - Opening hotlines to provide culturally-appropriate psychological support to isolated and quarantined persons
  - Informing and educating health care providers working with patients in isolation through tip sheets and Web-based orientation
  - Ensuring that a mechanism exists for psychological assessment at the end of the isolation/quarantine and, if needed, that referral to additional MH support is available
  - Mobilizing and deploying DOHMH responders (with due consideration of the risks of infection)

■ **Address psychological onsequences in the event of mass fatalities**

- Communicate with OCME and NYPD to determine the extent and type of MH needs generated by mass fatalities, and the actions required to address those needs
- Assess and continuously monitor community MH needs and the need for psychological support at the FACs. (MHDPR is not responsible for operating FACs.)
- Prepare and distribute appropriate psychological support information
- Mobilize and deploy DOHMH responders to provide MH support at the FACs
- If required, mobilize MH staff to accompany NYPD staff for death notifications when death occurs outside of a hospital setting.

■ **Support the MH needs of communities**

- Assess unmet needs and develop strategies to support communities to meet those needs

- Support community efforts to reduce public stress and anxiety. Activities include:
  - Distributing and posting online information and tip sheets regarding available MH services
  - Encouraging calls to LIFENET (1-800-LIFENET 1-800-543-3638 [English]; 1-877-AYUDESE, 1-877-298-3373 [Spanish]; 1-877-990-8585 [Chinese]; 1-212-982-5284 [TTY]), increasing phone stations and operators as necessary to manage large numbers of calls

Special Needs Populations

Comprehensive pandemic influenza planning must prepare for the mental health (MH) concerns of populations with special needs. OMHDPR will help ensure that tailored services are provided to the greatest extent possible to these vulnerable populations. Groups with special needs may include:

- **Children, adolescents, and the elderly**
- **People with mental or physical disabilities, including:**
  - Those who live in long-term-care facilities
  - Those who depend on outpatient services
- **Individuals living in, congregate settings, including:**
  - Students
  - Prisoners
  - People in inpatient health care facilities
  - People who live in nursing homes and other long-term-care facilities, such as homeless shelters
- **Hard to reach populations, including:**
  - Homeless not utilizing shelters
  - Homebound
  - Uninsured individuals
  - Immigrants
  - Undocumented individuals
  - Individuals with special language needs
  - Community groups with special cultural needs

Potential Activities

Planning and activities to meet the demand for expanded MH services tailored for populations with special needs may include:

- Considering the specific MH needs of vulnerable populations in all pandemic influenza MH planning and response.

- Educating health and MH care providers about vulnerable populations, their special needs during pandemic influenza and the providers' role in addressing those needs.
- Providing MH specific needs assessment of vulnerable populations.
- Developing need-specific Web-based and public health education materials.
- Providing support and consultation to agencies regarding MH services to vulnerable populations.
- Increasing the recruitment of volunteer MH providers to assist identified populations.
- Collaborating with community and faith-based organizations to ensure that MH planning, preparedness, and response is culturally appropriate.

Current Status of Resources

Increasing Awareness

- Information and tip sheets about normal and abnormal stress reactions to disasters and recommendation for coping are ready and available for distribution.
- A Web page has been created to provide basic information about disaster mental health and is accessible to the public (http://www.nyc.gov/html/doh/html/mhdpr/mhdpr-disaster.shtml)
- The Mental Health Association (MHA) of NYC operates a 24-hour hotline (1-800-LIFENET) staffed by mental health professionals to provide mental health support and referrals.

Training

- 176 individuals from hospitals, DOHMH, community mental health agencies, and industry Employee Assistance Programs (EAPs) have been trained in Managing the Psychosocial Consequences of Chemical, Biological, Radiological, Nuclear, and High-Yield Explosives (CBRNE) Terrorism. The disaster MH concepts learned are adaptable to those associated with pandemic influenza.
- Training on "Understanding the Mental Health Needs of Mass Prophylaxis Events" has been developed and will be available online for the members of the Medical Reserve Corps.
- Staff from 75% of all hospitals throughout NYC has been trained in the psychosocial consequences of terrorism. The disaster MH concepts learned are largely adaptable to those associated with pandemic influenza.
- Staff from 75% of all hospitals throughout NYC has received training in mental health-focused risk communication.

Monitoring and Evaluation

- A tool to evaluate the MH response capacity and capability has been developed. The evaluation of the current MH first responders (T-1) in NYC is in progress.
- A tool to assess MH needs during disasters including pandemic influenza has been developed.
- There is ongoing monitoring of the MRC capability and availability to respond to disaster MH needs.
- An evaluation of the hospitals' MH response capacity and capability, including the review of their disaster plans, is in progress.
- A review is in progress of the capacity of selected community- and faith-based organizations to mount a mental health response to a disaster such as pandemic flu.

Exercises and Drills

- MHDPR is participating in disaster drills and exercises, including for pandemic influenza.

Response Capability

- T-1 responders are available for deployment.
- Discussions regarding agreements with identified agencies have been initiated.

Outstanding Issues

- Prepare multi-language information materials (tip sheets, booklets, etc.) addressing the psychological issues specific to influenza pandemic.
- Prepare and update the MHDPR "MH Alert" Web page to provide information specific to understanding and addressing mental health needs during an influenza pandemic.
- Initiate discussion to establish a communication and collaboration protocol between MHDPR and the OCME, NYPD, The American Red Cross, hospitals, community representatives, and other agencies active in pandemic influenza response.
- Identify new partners for coordinated planning and response.
- Clarify credentialing and liability issues with responders who will provide mental health services during a pandemic.
- Identify financial resources for MH service providers who are not in contract with DOHMH for disaster response function. Develop and sign professional agreements with the T-1 mental health responders.
- Secure funding for providing new information and opening hotlines.
- Secure funding for staffing the onsite lines at the LIFENET and support the efforts of MHA to establish the "virtual call center".
- Continue to provide risk communication trainings to hospitals and federally qualified health care centers.
- Prepare internal risk communication protocol for pandemic influenza.
- Improve the use of HERDS for mental health information.
- Estimate the budgetary constraints of all planned activities and, if necessary, identify potential financial resources.

Section 9: Communications

OVERVIEW

The New York City (NYC) Department of Health and Mental Hygiene (DOHMH) has long been engaged in thinking through and practicing emergency communications. To prepare for public health threats, DOHMH regularly tests communications protocols, prepares communications tools in advance, trains key communicators in crisis and risk communications, and builds trust through close community partnerships that can be called on in emergencies.

During a flu pandemic, DOHMH will be expected to provide quick, clear, consistent, and frequent emergency information to large and extremely diverse audiences using the basic tenets of risk communications: be honest, be empathic, be clear about risks, and, when necessary, admit to not having all the answers.

OBJECTIVES

In the event of a pandemic, DOHMH aims to provide accurate, consistent, and frequent communications to the public and the medical community through television, radio, the Internet and call centers, ensuring consistency with city, state and federal messages. DOHMH will communicate issues of risk, necessity/location of medical care, and available prevention and treatment methods. In addition, the agency will communicate methods of community level disease control (e.g., cover cough, stay home with fever); provide staff to NYC Emergency Operations Center (EOC) locations and outreach sites where needed; and inform people through the news media, educational tools, and the DOHMH Web site about what they need to do.

ROLES AND RESPONSIBILITIES

Systems are in place at DOHMH that provide ongoing communications and build trust with diverse press, lay, and professional audiences. For example, press releases are issued frequently to the national, local, and ethnic press. Regular publications, including the Agency's monthly *Health Bulletin* (for the general public) and *City Health Information* (for physicians and other health care providers) are e-mailed to subscribers and distributed widely through other means. DOHMH staff offer frequent presentations on emergency preparedness and other issues, and the Agency provides rapid electronic communiqués to the medical community through the Health Alert Network (HAN) and broadcast faxes.

An influenza pandemic, or the threat of one, will trigger pre-established command structures. The City-wide Incident Management System (CIMS) will coordinate NYC's response. When DOHMH activates its Incident Command System (ICS), the Public and Provider Information Section (PPI), will assume communications responsibilities, employing systems and plans already in place, and developing new ones as the pandemic evolves.

CHALLENGES

The threat of an influenza pandemic presents distinct communications challenges. While an "all-hazards emergency communications" approach underscores all DOHMH preparedness activities, some aspects are unique to this particular threat. For example, the prioritized delivery of antiviral drugs and the months-long anticipated wait for limited supplies of vaccine after a pandemic strain is detected represent challenges that will require creativity, flexibility, and strong support from key stakeholders.

I. Interpandemic and Pandemic Alert Periods (WHO phases 1-5)

Overall Goals of DOHMH Communications

- Identify language needs for public education materials and provide translations as appropriate
- Develop messages for special populations (e.g., children, the elderly, people with physical or mental disabilities, the homeless, the homebound)
- Train agency staff in media relations and crisis and risk communications
- Educate agency staff on emergency communications protocols
- Continue to build relationships with key stakeholders
- Share emergency/pandemic planning information with stakeholders
- Regularly update stakeholder contact information

General Communications Planning and Preparedness

- Determine intra- and inter-agency communications roles
- Work closely with City Hall and emergency response agencies, clearly delineate DOHMH's public communications role during a pandemic crisis, and provide educational information through the Agency's Web site, call centers, and broadcast and other media
- Proactively build and maintain relationships with critical community partners and purveyors of information to New Yorkers including the media, city agencies, other government agencies, non-profit and community organizations, elected officials, unions, faith-based organizations, disability and other advocacy groups, community health centers, hospitals, health care providers, and businesses and others in the private sector
- Disseminate preparedness information to stakeholders to enable them to educate their constituents
- Participate in tabletop exercises, drills, and inter-agency discussions to strengthen readiness
- Train DOHMH personnel in crisis communication and media relations
- Practice emergency communications scenarios with personnel from other City agencies in multiple drills and in real-life situations

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- Train officials and potential spokespersons to communicate effectively by offering full-day media training sessions (5-10 people per session) and half- or full-day crisis communications lectures (50-200 people per lecture)
- Pre-determine roles and responsibilities for DOHMH communications staff and those who will assist with public and provider communications
- Develop, fine-tune, and maintain Job Action Sheets and an emergency organization plan to facilitate a fast transition to emergency communications roles if a pandemic occurs
- Work closely with the Office of Emergency Management (OEM) to establish a trained, multilingual Speakers Bureau to provide preparedness information to communities
- Prepare template/draft scripts, public service announcements, press releases, fact sheets, talking points, and message palettes
- Coordinate educational speakers for community presentations on pandemic flu preparedness
- Develop and make available low-literacy, multilingual information on pandemic flu in English, Spanish, Chinese, and Russian (see appendices 9A-9D)
- Educate people through news media, educational tools, and the Agency's Web site on what actions to take in the event of a flu pandemic:
  - Develop, disseminate, and post online respiratory and hand-washing etiquette posters
  - Develop and refine public information tools and materials, including press releases, fact sheets, message palettes, brochures, and call center scripts
  - Share emergency planning and preparedness information through the DOHMH Web site, call center, press releases, and other public forums
  - Ensure that risk communications materials include influenza pandemic-related issues, such as hand hygiene, masks, and protocols for prioritizing medications and health care
  - Pre-test emergency materials and messages
- Using monthly Health Bulletins and other means, build trust by regularly communicating with public health partners and stakeholders who can help disseminate emergency information, including:
  - Local, state, and federal elected officials
  - Community boards
  - Community- and faith-based organizations
  - The ethnic press and advocacy groups

- Organizations that support special needs groups, including children, older adults, women, immigrants, people with physical and mental disabilities, and LGBT (lesbian, gay, bisexual, transgender) populations
- HIV/AIDS service and advocacy organizations
- Health advocacy, support, and information organizations
- Environmental groups

- Build translation capacity to reach other-than-English-speaking groups. Processes are underway to:
  - Secure contracts for rapid translation and review, with on-staff and/or consultants available for back-up
  - Translate template language for press releases, public service announcements (PSAs), and fact sheets.
- Build an electronic system for e-mail alerts for New Yorkers who wish to receive emergency or other information directly through e-mail. System backup and conformity to NYC DOHMH standards for mass e-mail distribution have been ensured.

Planning and Preparedness Targeted to Health Care Providers

- Continue to improve and promote rapid communications systems, including the Health Alert Network (HAN), e-mail and online alerts, and broadcast faxes. (Also see Section 2, Surveillance and Epidemiologic Response, for information on provider conference calls and the Provider Access Line.
- Continue to strengthen *City Health Information*, the Agency's long-respected publication for physicians and other health care providers
- Continue to provide and expand professional education, presentations, and other communications mechanisms
- Continue to promote greater participation in the Medical Reserve Corps.
- Continue to train health and mental health providers and others in risk and crisis communications.

II. Pandemic Period (WHO phase 6)

In the event of a pandemic, communications will be a critical and integral part of disease control. When DOHMH's Incident Command Structure (ICS) is initiated, the Public and Provider Information Section (PPI), will assume the following responsibilities:.

- Rapidly communicate up-to-date information through the news media, community groups, 311/call center, the DOHMH and other Web sites, Points of Communication (POC), and the City's Joint Information Center (JIC).

- Provide call center operators with up-to-date information (311, Call Center, LIFENET Poison Center); 311 and Call Center may potentially triage calls from concerned citizens to ease the burden on hospitals.
- Widely disseminate and tailor information through fact sheets and e-mail to community-based organizations, elected officials, non-English-speakers, and others.
- Monitor media coverage for accuracy and consistency, as information verification by news media greatly diminishes during a crisis.
- Work with pre-identified organizations and media to contact hard-to-reach groups, for example:
  - People whose primary language is not English
  - People who are homeless
  - The homebound elderly
  - People who are physically or mentally disabled
  - People who are hearing and visually impaired
- Activate a speakers bureau comprising trained and knowledgeable DOHMH staff and others to provide information in community settings.
- Staff the City's Joint Information Center (JIC). A major emergency such as a flu pandemic would likely require that public information operations be pooled in a JIC, a location where public information specialists from city, state, and federal agencies gather to coordinate emergency information. The JIC operates out of the NYC EOC. JIC staff gather relevant information from Agency representatives and field PIOs for news releases, updates, and advisories. JIC staff also aggregate key information for the Mayor's Press Office, address public information issues, refine the City's message to the public, monitor news media, and correct erroneous reports. News conferences, briefings, and interviews may also be conducted at the JIC.

Communications Targeted Through the News Media

In any crisis, most people turn first to radio, TV, and the press. From the initial phases and throughout a pandemic, DOHMH will provide information through the news media quickly and accurately.

Communications must occur frequently, prepare the public for a long-term response to the pandemic, and be coordinated among many response agencies and levels of government to maximize consistency of messages. It is critical to be quickly recognized by the public as a trustworthy health authority.

If a pandemic occurs, some of the first questions to be asked will be:

- How widely has the strain spread and how bad is it?
- Who is sick and how many?

- Who will become sick?
- How many are dead/will die?
- What is being done to prevent others from being sick?
- What vaccine or medication is available?
- How is the vaccine being distributed?
- Is it being distributed fairly and quickly enough?
- What can I do to protect myself and my family?
- Should we stay home/go to work/school?
- Is there enough food and water?
- How will I take care of my family?
- How are we going to survive?

Communications Targeted to Health Care Providers

- Develop and disseminate clinical information and guidelines to limit mortality and serious morbidity from influenza
- Send information through HAN
- Develop broadcast e-mails and faxes to provide comprehensive guidance to medical providers
- Provide PAL with relevant information (FAQs, protocols for triaging suspected cases, etc), and trained staff (PAL provides consultation to physicians on an emergency basis)
- Conduct quality assurance to ensure that staff handles calls directly
- Work with the S&E Section to update medical and clinical materials, based on current epidemiologic and clinical findings

Communications Targeted Through 311

NYC residents can dial 311 any time to speak with a citizen service representative who can provide them with government information and assist with non-emergency services. Interpretation services are available in more than 170 languages.

During the 2005-2006 flu vaccination season, 311 provided triage service by using pre-designed algorithms to help callers determine whether they should receive a flu shot. 311 currently has an avian flu service and is able to provide answers to simple questions. In a pandemic, the informational capabilities of 311 will be expanded using continually updated algorithms. .

Health care providers who call into 311 for pandemic-related information will be transferred to the Provider Access Line (PAL).

Questions and Answers About Avian Flu: English

What is avian influenza (bird flu)?

Avian influenza is a type of influenza that usually infects birds. There are a number of different avian influenza strains, and they vary in severity. The strain that is currently causing a lot of concern is called H5N1. It was first found in Asia in 1997. Since 2003, more than 200 people in Asia, Europe, the Middle East, and Africa are known to have been infected with this form of bird flu. About half of these people have died. Most people infected with avian influenza have had direct contact with infected chickens or other poultry. So far, there is no evidence that bird flu can spread readily from one person to another. It is possible, however, that the virus could change (mutate) into a form that could spread easily from person-to-person. If that happens, a global outbreak could occur, causing much illness and many deaths. This is why governments around the world are keeping a close eye on the bird flu virus.

What is a flu pandemic?

A pandemic is a global outbreak. Fortunately, flu pandemics are rare. They happen only when a new strain of flu appears in the human population, and spreads readily from person-to-person worldwide. Flu pandemics can be much more serious than seasonal outbreaks of flu. Compared to seasonal outbreaks, which happen every winter, pandemics can cause more severe illness because most people have never been exposed to the new strains of flu and therefore have no immunity.

A pandemic of avian flu would only occur if these bird flu viruses change so that they can be passed readily from human to human. This has not yet been shown to occur during the current bird flu situation. The current highly pathogenic avian influenza H5N1 strain does not spread readily from person to person. Experts are monitoring this strain for changes in the virus that might indicate that it could start a pandemic, but at this time it is still a disease primarily of birds, not humans.

The flu pandemic of 1918, killed at least 20 million people worldwide and caused great suffering and financial loss. Flu pandemics in 1957 and 1968 also killed millions worldwide. For more information on these pandemics, visit http://www.cdc.gov/flu/avian/gen-info/pandemics.htm.

What is the New York City Department of Health and Mental Hygiene doing to prepare for a possible flu pandemic?

The Department is working with many organizations and partners, including the medical community, City hospitals, and state and federal health officials, to prepare for a possible flu pandemic in New York City. Planning includes making sure hospitals are ready to treat patients, educating doctors, and providing information to all New Yorkers. The City has a number of systems in place to identify where and when flu viruses occur, and to help us communicate quickly with doctors and the public about how to avoid infection.

How does bird flu spread?

The avian flu virus H5N1 is present in the saliva, nasal secretions, and droppings of infected birds. Birds spread the virus to other birds through either direct contact, or contact with surfaces contaminated with these secretions and/or feces. Health officials believe that nearly all people with H5N1 since 2003 became infected through direct contact with infected poultry.

What are the symptoms of avian flu?

Symptoms are different in different people. Some people have had typical flu-like symptoms, such as fever, cough, sore throat, and muscle aches. Others have had eye infections, pneumonia, severe respiratory disease, gastrointestinal illness and other serious and life-threatening complications.

Is there a bird flu vaccine?

Not yet. The federal government has been working since April 2005 to develop a vaccine, and clinical trials are now underway. For more information about vaccine development, visit the National Institutes of Health website: http://www3.niaid.nih.gov/.

Once a vaccine becomes available, how would I be able to get one?

If a pandemic were to occur, supplies of vaccine would be prioritized in stages over the weeks and months of the pandemic. People who would be first responders to the pandemic, and those at highest risk for serious illness and death from avian flu would be offered vaccine first. After that, the City is preparing to open large-scale vaccination clinics called Points of Dispensing (POD) Sites. Finally, when enough vaccine is available, people would most likely be able to get it from their doctors.

If there is an outbreak of pandemic flu, is there any way to protect myself?

The best way to avoid spreading flu and many other respiratory diseases is for people to cover their noses and mouths when they cough or sneeze. Frequent hand washing with soap or an alcohol-based cleaner helps prevent the spread of germs. Also, anyone with cough and a fever over 101 degrees Fahrenheit should stay at home until the fever subsides. People who are more severely ill should see a doctor, especially if they have shortness of breath and chest pain. Everyone should take these precautions during “regular” flu season as well.

How is bird flu infection treated in people?

Treatment is mainly supportive care (e.g., get plenty of fluids and rest). Doctors might also give antibiotics to prevent or treat bacterial infections that sometimes accompany the flu. Some antiviral medications commonly used to treat “regular” flu symptoms may be used to treat avian flu in persons most at risk for severe illness or death, including older adults and people with lung or heart disease. One of these medications, Tamiflu®, may help reduce the seriousness of avian influenza H5N1. However, there may not be enough of these medications available to treat everyone in the early stages of a pandemic.

Should I ask my doctor for Tamiflu® now so that I can take it if there is ever a pandemic in New York City?

No. Doctors should not prescribe Tamiflu® to people who do not need it. We strongly discourage people from getting or stockpiling the drug if they are not ill. Taking Tamiflu® improperly could lead to drug resistance. Supplies of the drug are needed to treat people who are sick with the "regular" human type of flu that appears every year. Also, it is not clear whether Tamiflu® would be effective against the particular strain that was circulating if a pandemic occurred.

What is currently going on with H5N1 bird flu worldwide?

Human infections of avian flu have been reported in Azerbaijan, Cambodia, China, Egypt, Indonesia, Iraq, Thailand, Turkey, and Vietnam. Outbreaks of bird flu were first noted among birds in Asia in late 2003 and early 2004. In 2005, outbreaks of the deadly bird virus were reported in Eastern European countries and again in South Asia. 2006 has seen the virus spread among birds to countries in Africa, Western Europe, and the Middle East. More than 100 million birds in these countries either died from the disease or were killed to control its spread.

What is the risk to people from the H5N1 virus in Asia, the Middle East, Europe, and Africa?

So far, spread of H5N1 virus from person to person has been extremely rare. However, because all flu viruses have the ability to change, the H5N1 virus could one day become highly infectious and spread easily from one person to another. Experts from around the world are watching the situation very carefully and preparing for the possibility that the virus may begin to spread more readily and widely.

What is the risk to people in the United States from the H5N1 bird flu outbreak overseas?

The strain of H5N1 virus found overseas has not been found in the United States, or anywhere else in North or South America. It is possible that travelers returning from affected countries in Asia could be infected if they were exposed to the virus as a result of direct contact with infected poultry (at a live poultry market, for example) or with a person infected with avian flu. Since February 2004, medical and public health professionals have been on alert to find any such cases, but there have been no bird or human cases of H5N1 flu in the United States. For more information on travel to countries affected by avian flu visit
http://www.cdc.gov/travel/other/avian_influenza_se_asia_2005.htm

If I see a dead bird in New York City, should I report it?

Dead birds can be reported to 311 during West Nile virus season (which runs from May 1 through October 31 each year). While individual dead birds may be collected and tested for WNV, a smaller proportion of those birds may also be tested for avian influenza. Year round, the DOHMH will work with other city, state and federal agencies and partners to investigate clusters of dead birds that are reported in New York City.

H5N1, the strain of bird flu causing bird illness overseas has not been found in birds or humans in New York City, or anywhere in the western hemisphere at this time. Federal and state agriculture agencies are monitoring poultry and migratory birds for avian influenza. DOHMH is working closely with these agencies so that H5N1 avian flu could be detected quickly if it appeared in New York City. For more information about surveillance for H5N1 in migratory birds visit the website for the United States Department of Agriculture at: http://www.usda.gov/wps/portal/usdahome.

And about surveillance in poultry visit the NYS Department of Agriculture and Markets website at http://www.agmkt.state.ny.us/AI/AvianFlu.html.

Could I get bird flu from a bird in New York City?

H5N1, the strain of bird flu causing serious problems overseas, has not been found in birds in New York City. Contact with birds found in New York City does not pose a risk for infection with H5N1.

Should I avoid eating eggs or poultry?

No. There is not currently any evidence to suggest that eating eggs or poultry in the U.S. could cause infection with avian flu. For general food safety, however, whole poultry should always be cooked to 180°F, and chicken breasts to 170°F. Eggs should be cooked until the yolks and whites are firm. Always wash hands, cutting boards, dishes, and utensils with hot, soapy water after they come in contact with raw meat, poultry, and seafood.

For more information about avian influenza:

Centers for Disease Control and Prevention (CDC): http://www.cdc.gov/flu/avian/

World Health Organization (WHO): http://www.who.int/csr/disease/avian_influenza/en/

Questions and Answers About Avian Flu: Spanish

¿Qué es la gripe aviar (gripe del pollo)?
La gripe aviar es causada por una cepa del virus de la gripe que usualmente afecta solamente a las aves. La cepa (H5N1) se descubrió por primera vez en Asia en 1997. Desde el 2003, más de 120 personas en Asia han sido infectadas con la gripe aviar, y cerca de la mitad han muerto. La mayoría de las personas infectadas con la gripe aviar han tenido contacto directo con pollos o con otras aves de corral infectadas. Hasta ahora, no hay evidencia de que la gripe aviar pueda contagiarse fácilmente de una persona a otra. Es posible, sin embargo, que el virus pueda cambiar (mutar) a una forma que *podría* contagiarse fácilmente de persona a persona. Si eso sucede, podría ocurrir una epidemia a escala mundial que causaría muchas enfermedades y muchas muertes. Por eso es que los gobiernos de todo el mundo están vigilando de cerca la gripe aviar.

¿Que es una pandemia de gripe?
Una pandemia es una epidemia a escala mundial. Afortunadamente, las pandemias de gripe son raras. Ocurren solamente cuando una nueva cepa de gripe aparece en la población humana y se contagia fácilmente de persona a persona en todo el mundo. Las pandemias de gripe son mucho más graves que los brotes estacionales de gripe. En comparación con los brotes estacionales, que ocurren cada invierno, las pandemias causan enfermedades más graves porque la mayoría de las personas nunca han estado expuestas a las nuevas cepas de gripe y por lo tanto no tienen inmunidad.

La pandemia de gripe de 1918, por ejemplo, mató a 20 millones de personas en todo el mundo y causó gran sufrimiento y pérdidas financieras. Las pandemias de gripe de 1957 y de 1968 también mataron a millones en todo el mundo. Para más información sobre esas pandemias, visite http://www.cdc.gov/flu/avian/gen-info/pandemics.htm.

¿Qué está haciendo el Departamento de Salud y Salud Mental de la Ciudad de Nueva York para prepararse para una posible pandemia de gripe?
El Departamento está trabajando con muchas organizaciones y asociados, incluyendo la comunidad médica, hospitales de la ciudad, y funcionarios de salud estatales y federales para prepararse para una posible pandemia de gripe en la Ciudad de Nueva York. Los planes incluyen la verificación de que los hospitales están preparados para tratar a los pacientes, la educación de los doctores y la comunicación de información a todos los neoyorquinos. La Ciudad tiene varios sistemas en funcionamiento para identificar dónde y cuándo ocurren los virus de la gripe, y para ayudarnos a comunicar rápidamente con los doctores y el público acerca de cómo evitar la infección.

¿Cómo se contagia la gripe aviar?
El virus H5N1 de la gripe aviar está presente en la saliva, secreciones nasales y materia fecal de las aves infectadas. Las aves contagian el virus a otras aves por contacto directo o por contacto con superficies contaminadas con esas secreciones y/o materia fecal. Los funcionarios de salud creen que casi todas las personas con la cepa H5N1 en Asia se contagiaron por contacto directo con aves de corral infectadas o con materia fecal de aves de corral.

¿Cuáles son los síntomas de la gripe aviar en las personas?
Los síntomas son diferentes en diferentes personas. Algunas personas han tenido síntomas típicos de la gripe, tales como fiebre, tos, dolor de garganta y dolores musculares. Otros han tenido infecciones en los ojos, neumonía, enfermedades respiratorias severas y otras complicaciones graves que ponen en peligro la vida.

¿Hay vacuna disponible contra la gripe aviar?
Aún no, pero puede haberla pronto. El gobierno federal ha estado trabajando desde abril de 2005 para desarrollar una vacuna y actualmente se están llevando a cabo pruebas clínicas. Para mayor información acerca del desarrollo de la vacuna, visite el portal de los Institutos Nacionales de Salud (National Institutes of Health): http://www3.niaid.nih.gov/

Una vez que esté disponible la vacuna contra la gripe aviar, ¿cómo podré conseguirla?
Si ocurriese una pandemia, se repartirían los suministros de vacunas según un orden de prioridad. Las personas con mayor riesgo de sufrir enfermedades graves y muerte por la gripe aviar recibirían la vacuna primero. A continuación, el Departamento abriría clínicas de vacunación a gran escala llamadas Puntos de Despacho (POD, por sus siglas en inglés). Finalmente, cuando hubiera suficiente vacuna disponible, la gente podría probablemente recibirla de sus doctores.

Si hay un brote de gripe aviar, ¿hay alguna forma en que yo pueda protegerme?
La mejor manera para evitar el contagio de la gripe y de muchas otras enfermedades respiratorias es que la gente se cubra la nariz y la boca cuando tose o estornuda. El lavado frecuente de las manos con jabón o con un limpiador a base de alcohol ayuda a evitar el contagio de los gérmenes. Asimismo, cualquier persona que tenga tos y fiebre superior a 101 grados Fahrenheit debe permanecer en casa hasta que le baje la fiebre. Todos deben también tomar esas precauciones durante la temporada "regular" de gripe.

¿Cómo se trata la infección H5N1 en las personas?
El tratamiento es principalmente atención de apoyo (p.ej., consumir muchos líquidos y descansar mucho). Los doctores también pueden recetar antibióticos para prevenir o tratar las infecciones bacterianas que algunas veces acompañan a la gripe. Varias medicinas antivirales comúnmente usadas para tratar los síntomas de la gripe "regular" se pueden usar para tratar la gripe aviar en personas que tienen mayor riesgo de enfermedades graves o muerte, incluyendo ancianos y personas con enfermedades pulmonares o cardiacas. Una de esas medicinas, el Tamiflu®, puede ayudar a reducir la gravedad de la gripe aviar H5N1. Sin embargo, tal vez no haya suficiente cantidad disponible de esas medicinas para tratar a todos en las etapas iniciales de una pandemia.

¿Debo pedir Tamiflu® a mi doctor ahora para poder tomarla si hay un brote de gripe aviar en la Ciudad de Nueva York?

No. Los doctores no deben recetar Tamiflu® a personas que no lo necesitan. Pedimos encarecidamente a las personas que no están enfermas que no obtengan ni acumulen Tamiflu®. Tomar Tamiflu® de manera inapropiada podría crear resistencia contra esta medicina. Y las existencias disponibles de Tamiflu® se necesitan para tratar a las personas que están enfermas con la gripe de tipo humano "regular" que aparece todos los años.

¿Que está sucediendo actualmente con la gripe aviar en Asia?
Se han reportado infecciones humanas de gripe aviar en Camboya, Indonesia, Tailandia y Vietnam. Los primeros brotes de gripe aviar se observaron entre las aves en Asia a finales del 2003 y a principios del 2004. Más de 100 millones de aves en esos países han muerto por la enfermedad o han sido sacrificadas para controlar su contagio. En junio del 2004, China y varios otros países asiáticos reportaron nuevos brotes de gripe H5N1 entre las aves de corral.

¿La gripe aviar H5N1 ha llegado a Europa?

Se han reportado casos entre algunas aves de corral y aves silvestres en Turquía, Rumania y Grecia. Pero hasta ahora no hay personas infectadas.

¿Qué riesgo representa el virus H5N1 para las personas en Asia y Europa?
Hasta ahora, el contagio del virus H5N1 de persona a persona ha sido extremadamente raro. Sin embargo, debido a que todos los virus de la gripe son capaces de cambiar, el virus H5N1 podría un día convertirse en un virus altamente infeccioso y contagiarse fácilmente de una persona a otra. Los expertos de todo el mundo están vigilando con gran atención la situación en Asia y se preparan para la posibilidad de que el virus pueda empezar a contagiarse más fácilmente en un ámbito más extenso.

¿Qué riesgo representa el brote de gripe aviar H5N1 en Asia y Europa para las personas en los Estados Unidos?
La cepa del virus H5N1 encontrada en Asia y Europa no se ha encontrado en los Estados Unidos. Es posible que viajeros que regresen de los países afectados en Asia estén infectados si estuvieron expuestos al virus por haber tenido contacto directo con aves de corral infectadas (en un mercado de aves vivas, por ejemplo) o con una persona infectada con la gripe aviar. Desde febrero de 2004, los profesionales médicos y de salud pública han estado en alerta para descubrir esos casos, pero no se han presentado casos de gripe H5N1 en aves o en humanos en los Estados Unidos.

Si veo una ave muerta en la Ciudad de Nueva York, ¿debo reportarla?
No. H5N1, la cepa de gripe aviar que causa enfermedades en las aves en Asia y Europa no se ha encontrado en aves ni en humanos en la Ciudad de Nueva York ni en ninguna parte del hemisferio occidental hasta el momento. Fuera de la temporada del virus del Nilo Occidental (que va desde el primero de mayo hasta el 31 de octubre de cada año), el DOHMH no acepta reportes de aves muertas. Las agencias de agricultura federales y estatales están monitoreando las aves de corral y las aves migratorias para detectar la gripe aviar. El DOHMH está trabajando de cerca con esas agencias de manera que la gripe aviar H5N1 pueda ser detectada rápidamente si aparece en la Ciudad de Nueva York.

¿Podría una ave contagiarme la gripe aviar en la Ciudad de Nueva York?
H5N1, la cepa de gripe aviar que causa problemas graves en Asia, no se ha encontrado en aves en la Ciudad de Nueva York. El contacto con aves encontradas en la Ciudad de Nueva York no representa un riesgo de infección con el virus H5N1.

¿Debo evitar comer huevos o aves de corral?
No. Actualmente no hay evidencia que sugiera que comer huevos o aves de corral en los Estados Unidos podría causar infección con gripe aviar. Para seguridad general respecto a la alimentación, sin embargo, las aves de corral enteras siempre se deben cocinar a 180°F y las pechugas de pollo a 170°F. Los huevos se deben cocinar hasta que las yemas y las claras estén firmes. Lávese siempre las manos, así como las tablas para cortar, los platos y los utensilios, con agua caliente y jabón después de que hayan entrado en contacto con carne, carne de ave de corral y pescado y marisco crudos.

Para más información sobre la gripe aviar:
Centros para el Control y Prevención de Enfermedades (CDC): http://www.cdc.gov/flu/avian/
Organización Mundial de la Salud (WHO): http://www.who.int/csr/disease/avian_influenza/en/

Questions and Answers About Avian Flu: Chinese

什麼是禽流感？

禽流感由一種通常只會在鳥類中傳播的流感病毒毒株引起，這種毒株（H5N1）於1997年在亞洲發現。自2003年以來，亞洲已有120多人感染禽流感，其中約有一半人已經死亡。大多數感染禽流感的人都曾經與被感染的雞或其它種類的家禽有過直接接觸。到目前為止，還沒有證據表明禽流感能夠輕易地在人與人之間進行傳播。然而，該病毒有可能發生變化（即發生病毒變異），從而可能輕易地在人與人之間進行傳播。如果發生這種情況，那麼就有可能爆發全球性禽流感，致使更多的人患病和死亡。這就是世界各國政府都在密切關注禽流感的原因。

什麼是全球性流感？

"全球性流行"一詞用來描述在全世界範圍內爆發的流行性疾病。幸運的是，全球性流感非常罕見。只有在人類中出現新的流感病毒毒株、並且該病毒在人與人之間輕易地廣泛傳播時，才會爆發全球性流感。全球性流感比季節性流感的爆發要嚴重得多。與每年冬天的季節性流感相比，全球性流感會導致更嚴重的病情，這是因為大多數人從未接觸過新型流感病毒，自然也就沒有相應的免疫力。

例如，1918年爆發的全球性流感，在全世界範圍內奪去了2千萬人的生命，並造成了巨大的社會創傷和經濟損失。1957和1968年爆發的全球性流感也在全球範圍內奪去了數百萬人的生命。有關這些全球性疫情的更多資訊，請訪問http://www.cdc.gov/flu/avian/gen-info/pandemics.htm.

紐約市健康與心理衛生局準備怎樣應對可能爆發的全球性流感？

健康與心理衛生局正在與許多組織與合作夥伴共同努力，包括醫學界、市立醫院以及州和聯邦健康事務官員，爲紐約市可能出現的大範圍流感做防範準備。具體行動包括，確保各醫院隨時做好接收和治療病人的準備，向醫生進行宣傳，並向所有紐約人提供相關資訊。市政府的若干套甄別流感病毒的系統已經就緒，能夠及時發現何時何地出現流感病毒，並幫助我們與醫生之間以及公衆就如何預防感染問題迅速進行溝通。

禽流感是如何傳播的？

禽流感病毒H5N1存在於被感染禽類的唾液、鼻分泌物和糞便中。病毒在禽類之間通過直接接觸傳播，或因接觸這些分泌物和/或糞便而傳播。健康事務官員認爲，幾乎所有感染上H5N1病毒的亞洲人都是因爲直接接觸過感染的禽類或禽類糞便而染病的。

人類患上禽流感的症狀是什麼？

不同的人症狀不同。有些人會出現典型的流感症狀，例如發燒、咳嗽、咽喉疼痛和肌肉疼痛。而其他人可能會出現眼部感染、肺炎、嚴重的呼吸道疾病以及其它嚴重甚至危急生命的併發症。

有沒有禽流感疫苗？

目前還沒有，但是也許很快問世。自2005年4月以來，聯邦政府就一直在致力於疫苗的研發，目前已經進入臨床試驗階段。有關疫苗研發的更多資訊，請訪問美國國立健康研究院（National Institutes of Health）的網站http://www3.niaid.nih.gov/。

一旦禽流感病毒疫苗問世，我怎樣才能接種到該疫苗呢?
如果全球出現疫情，那麼疫苗將根據優先次序發放。有可能因禽流感而患重病甚至死亡的高危人群將優先接種疫苗。其後，健康與心理衛生局將開放爲數眾多的疫苗接種診所，這些診所被稱爲接種點(Points of Dispensing，POD)。如果疫苗能夠充分供應，人們還很有可能直接從他們的醫生那裏接種該疫苗。

如果爆發禽流感，有什麼自我保護的辦法？
避免傳播流感和其它呼吸道疾病的最佳途徑是咳嗽或打噴嚏時遮住口鼻。經常用肥皂或以酒精爲主要成份的清潔劑洗手能夠幫助預防細菌的傳播。另外，任何人如果發燒超過101華氏度並伴有咳嗽，就應當留在家裏直至退燒。每個人在“一般的”流感季節中也應當採取這些預防措施。

如何治療H5N1感染者？
主要採用輔助治療方案（如喝大量的液體和休息），醫生也有可能開些抗生素，用來預防或治療有時因患禽流感而併發的細菌性感染。一些常用于治療“一般的”流感症狀的抗病毒藥物也可以用於治療那些可能出現嚴重病情甚至死亡的高危禽流感患者，這些高危人群包括老人和患有心肺疾病的人。在這些藥物中，有一種稱爲達菲（Tamiflu®）的藥，有助於減輕感染禽流感病毒H5N1的嚴重程度。然而，在疫情爆發初期，這些藥物的數量也許有限，因而無法滿足每一個人的治療需要。

我是否應當現在就請醫生爲我開些達菲（Tamiflu®），以備萬一紐約市出現禽流感爆發時之用？
不需要。醫生不能給不需要的人開達菲（Tamiflu®）。我們絕不鼓勵人們在沒有生病的情況下去購買或儲存這種藥物。錯誤服用達菲（Tamiflu®）可能會導致抗藥性。而且該藥的供應也是爲了用於治療患上每年都有的“一般性”流感的人們。

亞洲目前的H5N1禽流感發病情況如何？
柬埔寨、印尼、泰國和越南都報導有人類感染禽流感的病例。亞洲地區的鳥類患流感的情況最早是在 2003 年年底到 2004 年年初被注意到的。在這些國家中，因患該病或爲了控制其傳播而被捕殺的鳥類超過了 1 億隻。2004 年 6 月，中國和其它幾個亞洲國家也報告了 H5N1 流感在家禽中爆發的新情況。

H5N1禽流感是否已經蔓延到了歐洲？
土耳其、羅馬尼亞和希臘報導在一些家禽和野鳥中出現了禽流感，不過到目前爲止還沒有人類被感染。

亞洲和歐洲出現的H5N1病毒對人們會造成什麼威脅？
到目前爲止，H5N1 病毒在人與人之間傳播的情況極爲罕見。但是，由於所有的流感病毒都有變異的能力，H5N1 病毒有一天也可能會極具傳染性，並且可能會輕易地在人與人之間傳播。來自全世界的專家們都在密切注視著亞洲的局勢，並時刻準備著面對病毒變得更容易傳播以及在更大範圍內傳播的可能性。

在亞洲和歐洲爆發的 H5N1 禽流感對美國民眾有什麼威脅？
美國沒有發現在亞洲和歐洲出現的 H5N1 病毒種類。當旅行者從受感染的亞洲國家返回時，有可能因爲直接接觸過被感染的家禽（例如在活禽市場）或禽流感攜帶者而受到感染。自 2004 年 2 月以來，醫務人員和公眾健康專家們對此一直保持著警覺，卻並未發現美國出現任何鳥類或人類感染 H5N1 流感的病例。

如果我在紐約市見到鳥類屍體，是否應當報告？
不需要報告。到目前爲止，紐約市和西半球均未發現有鳥類或人類攜帶有導致亞洲和歐洲鳥類疾病的禽流感病毒H5N1毒株。除去西尼羅病毒（West Nile virus）季節（每年5月1日至10月31日）以外，健康與心理衛生局不接受任何單獨鳥類死亡報告。聯邦和州的農業機構正在對家禽和候鳥進行監控，以防禽流感出現。健康與心理衛生局正在與這些機構密切合作，以便一旦紐約市出現H5N1禽流感，就能夠被及時發現。

我會從紐約市鳥類的身上感染禽流感嗎？
目前尚未在紐約市發現在亞洲導致嚴重問題的禽流感病毒H5N1毒株，接觸紐約市的鳥類不會有感染H5N1的危險。

我應當避免食用蛋類或者禽類嗎？
不需要。目前還沒有任何證據表明在美國食用蛋類或者禽類會導致感染禽流感。但是，作爲一種食物安全常識，烹飪整只肉禽時， 溫度一定要達到180° F，而烹飪雞胸脯肉時，溫度一定要達到170° F。蛋類的烹製應以蛋黃和蛋白的凝固變硬爲准。在接觸過生肉、生禽肉和生海鮮之後，一定要用熱肥皂水清洗雙手、切菜板、碗碟以及烹飪和盛放食物的器皿。

有關禽流感的更多資訊：
疾病預防與控制中心（Centers for Disease Control and Prevention，CDC）：
http://www.cdc.gov/flu/avian/
世界衛生組織（World Health Organization，WHO）：
http://www.who.int/csr/disease/avian_influenza/en/

Questions and Answers About Avian Flu: Russian

Что такое птичий грипп?
Возбудителем птичьего гриппа является штамм вируса гриппа, который обычно вызывает эту болезнь только у птиц. Этот штамм (H5N1) был впервые обнаружен в Азии в 1997 году. С 2003 года в Азии отмечалось более 120 известных случаев заражения людей вирусом гриппа, при этом примерно половина из этих больных умерли. Многие люди, заразившиеся птичьим гриппом, имели прямой контакт с инфицированными курами или другой домашней птицей. Пока что не было обнаружено прямого свидетельства тому, что птичий грипп может легко передаваться от одного человека к другому. Однако существует вероятность, что этот вирус может меняться (мутировать) и превращаться в такую разновидность гриппа, которая *может* легко передаваться от человека к человеку. Если это произойдет, земной шар может охватить эпидемия, которая вызовет огромное число заболеваний и большое количество смертельных случаев. Поэтому правительства всех стран мира внимательно наблюдают за ситуацией с птичьим гриппом.

Что такое пандемия гриппа?
Пандемией называется эпидемия гриппа в мировом масштабе. К счастью, пандемии гриппа случаются редко. Они бывают только в тех случаях, когда появляется новый штамм гриппа, опасный для людей, который легко передается от человека к человеку. Пандемии гриппа куда более опасны, чем сезонные эпидемии гриппа. При пандемиях заболевание протекает в более тяжелой форме, чем при сезонных эпидемиях гриппа, наступающих каждую зиму, потому что, поскольку люди никогда не заражались новыми штаммами вируса гриппа, у них отсутствует иммунитет к таким штаммам вируса.

Так, например, пандемия гриппа 1918 года привела к смерти 20 миллионов человек в различных странах мира, и вызвала огромные страдания и финансовые убытки. При пандемиях гриппа 1957 и 1968 года также погибли миллионы людей по всему земному шару. Дополнительную информацию об этих пандемиях можно получить на сайте http://www.cdc.gov/flu/avian/gen-info/pandemics.htm.

Что делает Управление здравоохранения и психической гигиены города Нью-Йорка (New York City Department of Health and Mental Hygiene), чтобы подготовиться к возможной пандемии птичьего гриппа?
Управление сотрудничает со многими организациями и партнерами, включая медицинских работников системы здравоохранения, городские больницы и должностных лиц администрации системы здравоохранения на уровне штата и на федеральном уровне, чтобы подготовиться к возможной пандемии птичьего гриппа в городе Нью-Йорке. Эта подготовка включает в себя проверку готовности больниц к приему пациентов, обучение врачей и предоставление информации всем жителям Нью-Йорка. У города имеется несколько систем, которые позволят определить, где и когда появляются вирусы гриппа, и помогут Управлению установить быстрый контакт с врачами и населением для распространения информации о том, как избежать заражения.

Как распространяется вирус птичьего гриппа?
Вирус птичьего гриппа H5N1 находится в слюне, выделениях из клюва и помете зараженных птиц. Птицы передают вирус другим птицам либо при прямом контакте, либо при контакте с

Avian Flu Q & A, 11/14/05 (Russian)

поверхностями, зараженными такими выделениями и/или пометом. Должностные лица системы здравоохранения считают, что почти все лица, инфицированные вирусом H5N1 в Азии, заразились в результате прямого контакта с зараженной птицей или птичьим пометом.

Каковы симптомы птичьего гриппа у людей?
У различных людей отмечаются различные симптомы. У некоторых людей наблюдались такие же симптомы, как и при обычном гриппе, то есть, повышенная температура, кашель, воспаленное горло и мышечная боль. У других людей возникали такие симптомы, как глазные инфекции, воспаление легких, тяжелые респираторные заболевания и другие серьезные, опасные для жизни осложнения.

Имеется ли вакцина против птичьего гриппа?
Пока такой вакцины нет, но скоро она может появиться. Федеральное правительство занималось вопросом разработки этой вакцины с апреля 2005 года, и сейчас проходят ее клинические испытания. Дополнительную информацию о разработке вакцины можно получить на сайте Национальных институтов здравоохранения по адресу: http://www3.niaid.nih.gov/.

Как я смогу получить вакцину от птичьего гриппа, когда она появится?
Если наступит пандемия, то на различных этапах вакцина будет предоставляться в порядке приоритетной очередности. В первую очередь вакцина будет предоставлена тем, кто подвержен самому высокому риску серьезной болезни и смерти при заражении птичьим гриппом. После этого Управление здравоохранения откроет клиники для массовой вакцинации, которые будут называться «Пункты вакцинации» (Points of Dispensing, сокращенно POD). И, наконец, когда вакцины будет достаточно, ее, по всей видимости, можно будет получить у лечащего врача.

Если наступит эпидемия птичьего гриппа, можно ли как-то уберечься от инфекции?
Самый лучший способ избежать распространения гриппа и многих других респираторных заболеваний – это прикрывать нос и рот при кашле и чихании. Частое мытье рук с мылом или моющим средством на спиртовой основе помогает предотвратить распространение болезнетворных микроорганизмов. Кроме того, при кашле и температуре выше 101 градуса по Фаренгейту (38,3 по Цельсию) не следует выходить из дома до тех пор, пока не снизится температура. Все должны соблюдать эти меры предосторожности также и во время сезонной вспышки «обычного» гриппа.

Как лечат инфекцию вирусом H5N1 у людей?
Лечение в основном сводится к поддерживающему уходу (например, следует пить много жидкости и отдыхать). Врачи также могут выписать антибиотики для предотвращения или лечения бактериальной инфекции, которая иногда сопровождает грипп. Несколько препаратов для лечения вирусной инфекции, которые часто применяются для лечения симптомов «обычного» гриппа, можно использовать для лечения птичьего гриппа у тех, кто подвержен самому высокому риску тяжелой болезни или смерти, включая пожилых людей и тех, кто страдает болезнями легких или сердца. Один из таких препаратов под названием «Тамифлю» (Tamiflu®) может помочь уменьшить серьезность заболевания птичьим гриппом, вызванного вирусом H5N1. Однако на ранних стадиях пандемии может случиться так, что таких препаратов на всех не хватит.

Следует ли мне попросить моего врача выписать мне «Тамифлю» сейчас, чтобы можно было принимать его, если в Нью-Йорке наступит эпидемия птичьего гриппа?

Нет. Врачи не должны выписывать «Тамифлю» тем, кто не нуждается в этом препарате. Мы очень просим население не приобретать и не накапливать запасы этого препарата, если они не больны. Прием «Таймифлю» без необходимости может привести к повышенной устойчивости микроорганизмов к этому препарату. Кроме того, препарат нужен для того, чтобы лечить тех, кто заболел «обычным» гриппом, поражающим людей каждый год.

Какова сейчас ситуация в Азии с птичьим гриппом, вызванным вирусом H5N1?
Случаи заражения людей птичьим гриппом были отмечены в Камбодже, Индонезии, Таиланде и Вьетнаме. Вспышки птичьего гриппа впервые наблюдались у птиц в Азии в конце 2003 и в начале 2004 годов. Более 100 миллионов птиц в этих странах либо умерли от этой болезни, либо были убиты, чтобы прекратить ее распространение. В июне 2004 года в Китае и в нескольких других странах Азии у домашней птицы отмечались новые вспышки гриппа, вызванного вирусом H5N1.

Появился ли птичий грипп, вызываемый вирусом H5N1, в Европе?
Сообщалось о появлении птичьего гриппа у некоторых видов домашней птицы и у диких птиц в Турции, Румынии и Греции. Но пока что не наблюдались случаи заражения инфекцией у людей.

Каков риск заразиться инфекцией вируса H5N1 у населения в Азии и Европе?
Пока что передача вируса H5N1 от одного человека к другому наблюдалась крайне редко. Однако, поскольку все вирусы гриппа обладают способностью меняться, вирус H5N1 может внезапно стать очень заразным и легко передаваться от человека к человеку. Эксперты всего мира очень внимательно наблюдают за положением в Азии и готовятся к тому, что вирус может начать распространяться более легко и широко.

Каков риск для населения Соединенных Штатов из-за вспышки птичьего гриппа в Азии и Европе?
Штамм вируса H5N1, обнаруженный в Азии и Европе, не наблюдался в Соединенных Штатах. Есть вероятность того, что те, кто возвращается из стран Азии, в которых присутствует инфекция, могут быть инфицированными, если они были подвержены воздействию вируса в результате прямого контакта с зараженной домашней птицей (например, при посещении рынка, на котором продают живую домашнюю птицу) или с человеком, зараженным птичьим гриппом. Начиная с февраля 2004 года медицинские работники и работники системы общественного здравоохранения внимательно следили за появлением таких случаев, но в Соединенных Штатах не наблюдались случаи заражения гриппом, вызванным вирусом H5N1, ни у птиц, ни у людей.

Если я увижу мертвую птицу в городе Нью-Йорке, следует ли сообщить об этом?
Нет. В настоящее время вирус H5N1, штамм птичьего гриппа, вызывающий заболевание у птиц в Азии и в Европе, не был обнаружен ни у птиц, ни у людей ни в Нью-Йорке, ни в каком-либо еще месте западного полушария. Если такие случаи не происходят во время сезона активности западно-нильского вируса (который длится с 1 мая до 31 октября каждого года), Управление здравоохранения (DOHMH) не регистрирует сообщения об отдельных мертвых птицах. Сельскохозяйственные агентства на уровне штата и на федеральном уровне наблюдают за появлением птичьего гриппа у домашней птицы и у перелетных птиц. Управление здравоохранения работает в тесном сотрудничестве с этими агентствами, с тем, чтобы быстро обнаружить вирус H5N1, вызывающий птичий грипп, если он появится в городе Нью-Йорке.

Могу ли я заразиться птичьим гриппом от птицы в городе Нью-Йорке?

Вирус H5N1, штамм птичьего гриппа, который вызвал серьезные проблемы в Азии, не был обнаружен у птиц в Нью-Йорке. Контакт с птицами в городе Нью-Йорке не несет риска заражения инфекцией вируса H5N1.

Следует ли перестать есть яйца или домашнюю птицу?
Нет. В настоящее время нет никаких свидетельств тому, что можно заразиться птичьим гриппом в США, если есть яйца или домашнюю птицу. Однако в силу общих правил безопасного обращения с продуктами питания домашнюю птицу нужно всегда готовить до тех пор, пока температура птицы, готовящейся целиком, не достигнет 180 градусов по Фаренгейту, а при готовке куриных грудок – 170 градусов. Яйца нужно готовить до тех пор, пока и желток, и белок не станут твердыми. Всегда следует мыть руки, разделочные доски, посуду и столовые приборы горячей водой с мылом после того, как они находились в контакте с сырым мясом, домашней птицей и морепродуктами.

Дополнительную информацию о птичьем гриппе можно получить на сайтах:
Центров контроля и профилактики заболеваний (CDC) по адресу: http://www.cdc.gov/flu/avian/
Всемирной организации здравоохранения (WHO) по адресу:
http://www.who.int/csr/disease/avian_influenza/en/

Avian Flu Q & A, 11/14/05 (Russian)

NEW YORK CITY DEPARTMENT OF HEALTH AND MENTAL HYGIENE

Michael R. Bloomberg, Mayor
Thomas R. Frieden, MD, MPH, Commissioner