

has required all National Health Services (NHS) organizations to prepare contingency plans for pandemic flu.³

Presentation: The presentation will describe the steps taken to improve preparedness across organizations in the Avon area, including issues such as the availability of anti-virals, face masks, and protective equipment. New integrated command and control arrangements will be described alongside the likely challenges to service continuity and new processes developed to assist in managing the consequences of pandemic flu.

The presentation will highlight the utility of service continuity planning as a foundation for robust emergency management arrangements for pandemic flu and other emergencies.

Principle Messages: Pandemic Influenza presents considerable business continuity challenges for the NHS. Planning and Preparedness for pandemic flu will provide a robust platform for the NHS response to other emergencies, including bio-terrorism. Everyone must take part in preparedness for pandemic influenza and business continuity planning.

References:

1. Cabinet Office (2006), Contingency Planning for a Possible Influenza Pandemic, Cabinet Office, London.
2. Department of Health. (2005), Explaining Pandemic Flu: A Guide from the Chief Medical Officer, Department of Health, London.
3. UK Health Departments. (2005) UK Health Departments' Influenza Contingency Plan, Department of Health, London.

Keywords: health service planning; National Health Services; pandemic influenza; preparedness

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(227) Potential Avian Flu Pandemic: National Understanding of Paramedic Attitudes and Concerns, and Innovative EMS-based Surveillance and Triage Strategies

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The Australian National Health and Medical Research Council funded this project to study and inform national policy-makers on avian flu. An experienced team of investigators from three universities, one international expert and associate investigators from each Australian state ambulance authority, led the project.

A national survey the attitudes and concerns of Australian paramedics comprised a stratified sample of 3,000 paramedics and their life partners, and included focus groups/interviews in each state.

The next component examined the use of the Medical Priority Dispatch system as a surveillance tool at the point of call-taking. Investigators compared these data with existing surveillance data on influenza-like-illness (ILI) in medical locum services, sentinel general practices, and emergency departments, hospital inpatients, and laboratory results, in two Australian states.

The community-based triage for ILI in the EMS component adapted the population-based triage model for community bio-events, developed by Skip Burkle, for use as a triage tool

in a potential avian flu pandemic. This study's implications for national and state "pandemic flu" planning will be discussed.

Keywords: attitudes; Medical Priority Dispatch; model surveillance; pandemic flu; paramedics

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(228) Urbanization: Threats and Opportunity—Ankara, Athens, and Istanbul

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Urban population continues to grow at a faster rate than the world population. Three billion people, or about one half of all human beings, live in urban settlements, of which about 5% live in mega-cities. This trend is expected to continue (five billion by 2030). Athens, Istanbul, and Ankara demonstrate a different evolution to their current state. While urbanization and industrialization in Athens (four million) and the southern part of Istanbul (11 million) have had a negative effect on regional cooling, Ankara (four million) does not show any warming trend in spite of its urban geometry. All three systems produce considerable pollution from the heating of buildings, transportation and factories, and present significant health challenges. There is a significant potential for progress with opportunity as well as threats resulting from poor governance, organizational dysfunction, and creeping or sudden disasters. The problem space designated "urbanization" of all three cities will be treated as a system with an emphasis on attributes of failure and the need to offset it, as well as the potential for calamity and its health consequences. This preliminary work is conducted within the framework of Greek-Turkish collaboration funded by the Greek authorities.

Keywords: Ankara; Athens; Istanbul; threats; urbanization

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(229) Simulating the Effect of Pandemic Influenza on the Healthcare System Using Desktop Technology

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This presentation describes a simulation system that models the healthcare system's response to pandemic influenza. It assists public health decision-makers to develop response plans and procedures, and to optimize resource placement.

The simulation combines a geospatial epidemiology model with public health and healthcare system resources. It is run on a high-powered, desk top computer by a user with basic computing skills and analytical capabilities. Someone who is comfortable with Excel has the level of analytical capabilities required.

Using this system, public health personnel can determine which resource acquisition and deployment decisions will maximize the percentage of patients who receive the appropriate level of care within an appropriate timeframe. The system focuses on regional management of healthcare resources.

Reports at the end of each run of the simulation identify which resources ran out and which were plentiful, as well as the “outcomes” of the patients. The system delivers a what-if capability that allows a user to test the effect of substitutions for resources likely to be in short supply. The system thereby facilitates the development, in advance, of alternative care standards.

Keywords: model; pandemic influenza; regional management; resources; simulation

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(230) Respiratory Hazards: Enhanced Protection for Exposure to Airborne Viruses

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Introduction: There are impending threats of viral respiratory infections for healthcare workers worldwide—SARS, influenza, smallpox. Respiratory protection of healthcare workers is of the utmost importance and requires the highest possible level of protection, provided by such devices as the self-contained breathing apparatus (SCBA) and powered air purifying respirator (PAPR). However, this type of equipment does not allow easy stockpiling, and its use might not be realistic in all situations.

Thus, most occupational health authorities recommend the use of NIOSH (N95, N99) or CE (FFP2, FFP3) certified respirators in situations suspected to involve an airborne infectious hazard. Such certifications require particulate filtration efficiencies of 94%–99% against an aerosol of inert particles with a mean particle size of 0.3 μm and 0.6 μm . Considering that most viruses of pathogenic concern are smaller than 0.3 μm in size, and that the most penetrating particle size through charged fibers shifts towards the nano-sized range = 0.1 μm , this represents insufficient protection.

Methods: N95, N99, FFP2 and FFP3 respirators were evaluated for their powered air purifying respirator (VRE) in parallel with a P95 or FFP2 iodinated polymer-containing (IPC) respirator. Full-scale devices were tested against a viral surrogate, MS2 coliphage, and an animal virus, human influenza A/H1N1.

Results: The IPCs showed VRE results 100 to 1,000 times higher than same class respirators. Additional benefits include a carbon layer for nuisance levels of organic vapors and resistance to oil-containing aerosols.

Keywords: airborne viruses; iodinated polymer-containing respirator; powered air purifying respirator; Self Contained Breathing Apparatus; respiratory hazards; viral respiratory infections

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(231) European Front-Line Health Professionals and the New Public Health Threats: Assessment of Training Needs

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European training for health professionals on Rapid Response to Health Threats (ETHREAT) is a project co-funded by the European Commission (EC). The program consortium is comprised of institutes from Greece, Germany, Poland, Bulgaria, and the UK, and is coordinated by the University of Athens School of Medicine. The 36-month project aims to develop an educational package for front-line health professionals (FLHP) that will help to improve their ability to recognize and respond to new public health threats. Before designing the training package, members of the project team explored the opinions of their target audience and of European experts on the existence and appropriateness of currently available programmes, as well as on the desired content of an educational package.

The project team designed two questionnaires addressed to FLHPs and to Chemical, Biological, Radiological, and Nuclear (CBRN) experts in the European Union (EU) member states (MS) and other European countries. Both questionnaires were administered in hard-copy form and via the project website from March to September 2006.

The FLHP questionnaire was comprised of 47 questions. The total number of valid questionnaires returned was 231 from 23 European countries. Of this total, 106 (45.5%) were answered by physicians and 109 (47.2%) by other healthcare personnel, including 62 (27%) by public health officers.

More than 50% of the responding FLHPs felt that they currently are “poorly” or “very poorly” prepared to deal with a chemical, biological, or radiological incident. Similar numbers of FLHPs are not confident (mean: 57.7%) that they could discriminate a natural versus man-made incident. Nevertheless, 67% of FLHPs stated they know where to report a suspicious, deliberate incident, but 55% stated they do not have access to Personal Protective Equipment (PPE) in their workplace, and 49.6% were not aware of a plan for responding to a CBRN incident or their role in the plan.

The CBRN expert questionnaire included 40 questions. A total of 63 valid questionnaires were returned from 16 EUMS, of which 32 (50.8%) were answered by physicians and 31 (49.2%) by other healthcare personnel, including 14 (22.2%) by public health officers. Six (37.5%) EUMS have courses on CBRN threats for health professionals at all educational levels. Despite the available training courses, the majority of the responding experts believe that <25% of FLHPs in their country could recognize and manage a biological, chemical or radiological incident, to the extent that their role requires. The majority of experts also believe that