Summary of the Capitol Hill Breakfast Briefing

On

NURSING RESPONSE TO MASS CASUALTY EVENTS AFTER 9/11: RESEARCH ISSUES AND NEEDS

The FRIENDS of the National Institute of Nursing Research (NINR) held a Congressional breakfast briefing this year on June 17, 2003. The topic was "Nursing Response to Mass Casualty Events After 9/ll: Research Issues and Needs." FRIENDS, an independent, non-profit organization, supports the NINR by promoting public awareness of the role of nursing research in advancing health care in the United States. Those who attend these breakfasts include Members of Congress, Congressional staff, nurse researchers and administrators, and members of public and private organizations with a special interest in the topic.

Ada Sue Hinshaw, PhD, RN, FAAN, President of FRIENDS and Dean of the University of Michigan School of Nursing, opened the program. Since nurses strongly believe in prevention, she said, they have a strong role to play in countering bioterrorism. The briefing was organized to provide information on nursing's multiple responses to bioterrorism and possible mass casualty events.

Dr. Richard Hatchett, Senior Medical Advisor, represented Jerome M. Hauer, Acting Assistant Secretary for Public Health Emergency Preparedness of the Department of Health and Human Services. Dr. Hatchett expressed that office's appreciation for the nursing communities' activities in the bioterrorism prevention arena.

Overview of Front Line Detection and Response to Biodefense Threats

Kristine Gebbie, DrPH, RN, FAAN, Associate Professor of Columbia University School of Nursing, described the many roles of nursing. She said nurses are a key part of the front line of any kind of response in local public health departments, of which there are 2700 – 2800 in the U.S. The median staff size is 13. In many cases, there is only one full-time professional, and that person is either a nurse, with a half-time sanitarian, or a sanitarian with a half-time nurse. These two provide the major health care in the local area of jurisdiction. In larger areas, nurses are the largest group of professionals. In New York City, over 850 nurses are assigned to work in the public schools, and serve as the "health brain" surrounded by 100 to several thousand children. In emergency rooms and first-aid centers, people first see the nurse, who does the triage and may perform the major part of the care. There are also triages by nurses using telephone lines. Within care institutions, nurses are the ones who manage infections.

Dr. Gebbie added that nurses are key early responders to emergencies. Epidemiology or investigation teams often include public health nurses that evaluate degree of exposure, interactions of the infected patient with others, and the number of people involved. Nurses participate in thousands of phone calls, door-to-door visits, and scrutinizes

records. Nurses are the front-line triage staff for the emergency shelters organized by the Red Cross. They are also part of post-disaster debriefing teams to improve mental health both of those participating in disaster response and those who are exposed to disaster. "We are only beginning to understand the long-term mental health needs," she said.

Dr. Gebbie and others are identifying what training nurses need to be competent in responding to emergencies. The biggest need is for competencies in communication, organization and management. Nurses are helping identify, for example, public health, hospital, emergency medicine, and care competencies. Many research projects are under way by nurses and other disciplines in such areas as physiological responses to nosocomial infections in public health and hospitals, and mental health. Something nurses have not had to cope with, she said, is what can be done when there are 10 to 30 million people injured simultaneously.

Aspects of Bioterrorism Response

Captain Ann Knebel, USPHS, DNSc, RN, FAAN, of the Office of Public Health Emergency Preparedness, Department of Health and Human Services, formerly of the NINR, spent nine months working with the New York City Office of Emergency Management on expanding their emergency preparedness plans for smallpox vaccination. She explained that to prevent smallpox in NYC, the entire 8 million people will need shots within 3 to 4 days. This would involve 203 clinics, each with staff vaccinating about 550 people an hour! Ways must be developed so that all 8 million residents don't show up for shots on day one. Public messages must be carefully crafted so that those scheduled for day four realize they are not at a disadvantage for infection. Another issue is that a significant percentage of the residents do not speak English. Written information needs to be translated into at least 10 and preferably 17 languages, and multi-language media outlets must be utilized.

Captain Knebel underscored the need for collaboration among agencies that typically do not work together in the planning process. In addition to the NYC Department of Health, those at the table should include the Education Department, (which would provide shelters or clinic sites in schools), the Sanitation Department (that would dispose of medical waste), the Transit Authority (that would transport citizens and personnel to and from clinics), and the American Red Cross (which would provide food and water to staff). The Police and FBI would be interacting with the Health Department, whose staff currently is expert in epidemiology and medical management, but not in emergency response. Ways must be found to vaccinate first responders, who will vaccinate the public in clinics that will quickly be set up. Although they demonstrate bravery on a daily basis, many first responders fear infection for themselves, their families and the public. Early detection of a smallpox outbreak is also essential. The NYC Health Department is working on a syndromic surveillance system, whereby staff would analyze information, for example, from hospital emergency rooms or from pharmacies reporting an increase in purchases of antidiarrheal medications. Air sampling monitors to detect biological agents are being tested, and field and tabletop exercises are under way. Captain Knebel stressed that nurses are key to the planning process because of their

communication skills, expertise in combating infection, and experience in setting up clinics and administering vaccines.

Captain Knebel then identified research gaps. She said investigation is needed of the psychological effects of biological agents on all groups involved in response, particularly first responders and their families. "We need to identify approaches to facilitate collaboration across agencies not typically partners and to craft our messages so that we can enlist the public's cooperation." She also mentioned that some agencies have created flexible pots of funds. Researchers can apply and, when disaster occurs, can conduct their investigation in real time as the emergency unfolds, rather than retrospectively through simulations.

Referring to Dr. Gebbie's talk, Captain Knebel discussed what nurses bring to the table. They build effective relationships and facilitate effective communication. They understand infection control and the practical aspects of healthcare systems, which is an invaluable capability to setting up clinics and caring for patients. They are also adept at patient education, administering vaccines, and managing clinics. She mentioned that there are data from Gallop polls indicating that the public trusts nurses – they lend credibility to the emergency process.

She also pointed out that the lessons learned and skills developed for bioterrorism will be applicable to managing all infectious diseases, whether it is a natural outbreak of SARS or a terrorist event. Research opportunities are numerous, and nurses by virtue of their education, training and credibility can make significant contributions to the planning process.

Emergency Preparedness Curriculum in U.S. Nursing Schools

Betsy Weiner, PhD, RN, BC, FAAN, of the Office of the International Nursing Coalition for Mass Casualty Education, described the first meeting of the coalition. The meeting was held before 9/ll at Vanderbilt University by Dean Colleen Conway-Welch, who saw the importance of the mass casualty topic. Twelve members attended. When 9/ll happened, nursing organizations were on the phone discussing the substantial role nurses could play. The coalition now has 80 organizations' representatives and will have its third meeting in Nashville on July 22.

The first issue concerned promoting awareness of the coalition. Besides setting up a web page and a clearinghouse, three task forces were created – the strategic planning task force to outline what needed to happen; a competency development task force, and a curricular survey task force. The competency group will present its report at the July meeting, including what competencies nurses should have across different educational levels. The curricular survey task force is still in the midst of data collection. Surveys were sent to over 2000 multi-level nursing programs through the National League of Nursing. So far, there have been 300 responses, a 15% response rate, and more are expected before presenting the results at the July meeting.

Prior to 9/11, 16% of baccalaureate nursing programs had some relevant content, which usually related to natural disasters rather than biochemical and other terrorist topics. When asked what the needs were, the schools indicated a curriculum plan, a competency list, and on-line courses.

Informational Systems for Tracking Bioterrorism Events

Barbara B. Frink, PhD, RN, FAAN, Enterprise Nurse Executive, Cerner Corporation, highlighted the importance of rapid access to comprehensive clinical data in responding to mass casualty events. Her remarks focused on Health Century, the name of an early detection and management system for disease outbreaks – developed by Cerner.

Cerner Corporation is a prominent health technology firm located in Kansas City. Cerner was founded in 1979 in response to bioterrorism and preparedness issues.

The current situation regarding data access is that recognition and the recording process is slow between and among systems, and many agency systems are manual. Underreporting is common, data are incomplete, occurrences and patterns of disease outbreaks may go undetected, and alerting health care officials and care providers is haphazard at best. Responses are frequently inadequate or late. Most healthcare providers report disease outbreaks by telephone, fax or mail, which causes delay and often lacks needed details.

Cerner's response following 9/11 was to develop a multiple jurisdiction data clearinghouse called Health Century. By December 2001, formal planning began, and the system was operational by March 2002, connecting 22 laboratories with the public health department in Kansas City. Health Century electronically connects public health agencies with laboratories. It provides a data warehouse that collects, standardizes and analyzes anomalies in trends and issues alerts to local, State and Federal public health agencies. The alerts are based on predetermined thresholds.

The completeness of the Health Century data is between 82 and 95%. Prior to the use of this system, completeness was 34% at most, and what took three days for reports to reach labs now occurs almost in real time. In the future, Health Century will be devising antibiotic resistance and symptom surveillance programs.

Closing Remarks

Dr. Patricia A. Grady, PhD, RN, FAAN, provided a summary of the briefing. She also mentioned that last year NINR convened a panel of experts to identify ways that nursing research could contribute to the nation's biodefense. Recommendations of the panel included: evaluation of preparedness programs that already exist; developing models of interaction among scientists, care providers and the public; and behavioral approaches to

vaccine therapy and other mass casualty responses. The report of the expert panel can be found on the NINR Website at http://www.nih.gov/ninr/news-info/pubs/biodefense.pdf.