

### Prevention; Infectious Diseases Threats Increasing

1997 APR 28 - (NewsRx.com & NewsRx.net) -- A contaminated food supply and life-threatening diseases caused by microbes resistant to antibiotics are predicted in the near future by health experts unless prevention measures are taken immediately.

Microbial agents are not only infiltrating the food supply, living in homes, and causing problems in hospitals, they are becoming much more difficult to treat due to drug-resistant strains, health officials warned.

According to Michael T. Osterholm, Ph.D., M.P.H., Minnesota Department of Health, recent outbreaks, such as the hepatitis A scare, will only increase if steps are not taken to protect the food supply. "We believe that terminal pasteurization, including the use of irradiation, pulsed, high-intensity light, increased atmospheric pressure treatment, or other such pathogen elimination methods will be necessary on a wide-scale basis if we are to realize a safer food supply in the United States and throughout the world."

He added that this is necessary "since food and vegetable washing does not appear to decrease the risk of infectious disease transmission." It is important to implement treatment of foods as close to the end of the food preparation process as possible to ensure no further contamination. Osterholm believes that this helps reduce the risk of food-borne diseases.

Other factors that affect the food supply are consumers' dietary requirements and commercial sources for particular food products, he said. For example, the increased demand for fresh fruits and vegetables as part of a heart-healthy American diet has led to increased consumption of these items from foreign countries.

"Seasonally, more than 75 percent of some fresh fruits and vegetables are harvested outside the United States, particularly in developing countries," Osterholm said. "These are the same fruits and vegetables that, when consumed in those developing countries, pose an increased risk of acquiring travelers' diarrhea." Improperly cooked domestic meats and other products also pose a health risk.

His view was echoed by Daniel L. Engeljohn, Ph.D., U.S. Department of Agriculture (USDA). Engeljohn added, however, that it is important for irradiated food products to be properly labeled so that consumers can make educated food-purchasing decisions.

Joseph M. Madden, Ph.D., U.S. Food and Drug Administration (FDA), said that food irradiation has already been approved for limited uses, but the FDA is currently reviewing petitions for expanded uses.

Pulmonary hemorrhage among infants in Cleveland was associated with toxic molds in leaky basements, according to Ruth A. Etzel, M.D., Ph.D., U.S. Centers for Disease

Control and Prevention (CDC). In 1994, she led the team which made the discovery that infants in Cleveland with pulmonary hemorrhage, a life-threatening disease where infants cough up blood, were being exposed to toxigenic molds in their homes.

She discovered that the homes had suffered water damage as a result of flooding or plumbing problems which in turn promoted the growth of several molds, including the toxigenic *Stachybotrys atra*. This mold is known to cause gastrointestinal hemorrhage in farm animals eating moldy grain. Infants in Cleveland, Ohio, may have been affected by breathing airborne mold spores.

Appropriate mold cleanup should be emphasized following the recent flooding in the Midwest and Northwest. She suggests that any water-damaged items such as wet carpets should be replaced, and a bleach solution should be used to disinfect moldy areas to reduce the risks of toxigenic molds.

*Streptococcus pneumoniae*, commonly called pneumococcus, is the leading cause of community-acquired bacterial pneumonia, bloodstream infections, and ear infections, said Benjamin Schwartz, M.D., CDC. These bacteria, which during the past decade have become resistant to many antibiotics, are posing a health threat, he added.

"Pneumococcal infections cause about 20,000 deaths annually among persons of all ages in the United States and over one million deaths among children worldwide. In order to decrease, halt, or reverse the spread of pneumococcal resistance, we must decrease the unnecessary use of antibiotic agents," Schwartz added.

To accomplish this goal, he suggests educating both the public and the medical establishment to these problems. Patients that expect to receive antibiotics for treatment and physicians that are unsure of the diagnosis are major reasons for antibiotic overuse, he said. "The paradigm must change from one where antibiotics are expected and prescribed 'just to be safe,' to one where the safest course of action is not providing an antibiotic unnecessarily."

Antimicrobial resistance is also a growing problem for hospital patients, said John E. McGowan, Jr., M.D., Emory University, Atlanta, Georgia. In the past, drug-resistant bacteria were mainly seen in hospital intensive care units. "Today, however, newly resistant organisms may appear at any location of the health system, and the distinction between hospital and community resistance is blurring," McGowan said.

To study this problem, Project ICARE (Intensive Care Antimicrobial Resistance Epidemiology), a joint project between CDC and the Rollins School of Public Health of Emory University, was established to measure antibiotic resistance and antibiotic use in hospitals participating in CDC's National Nosocomial Infection Surveillance System (NNIS).

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A major goal of this study is to develop and improve mechanisms for the surveillance and control of antibiotic resistance. Some of the study's findings to date indicate that antimicrobial use and resistance are usually, but not always linked, he said.

McGowan suggests that healthcare systems should focus on more appropriate antimicrobial use and careful infection control practices to help combat drug-resistant bacteria in hospital settings.