TOPIC: SURVEILLANCE IN THE STATE OF NEW YORK**PRESENTER: BARBARA A. DeBUONO, MD, MPH,
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The communicable disease surveillance system in New York State is composed of a comprehensive network of physicians, nurses, laboratories, and local, state, and federal health officials. Reports of notifiable disease in New York State first go to the county health departments, which ensure proper treatment of cases and assist in identification, isolation, and prophylaxis of contacts. The New York State Department of Health (NYSDOH) collaborates with the Centers for Disease Control and Prevention (CDC) to identify cases and to assist in laboratory testing, case identification, and design of appropriate public health interventions.

An examination of New York State's response to the increasing incidence of three infectious diseases—syphilis, tuberculosis (TB), and hantavirus pulmonary syndrome (HPS)—exemplifies the need for coordination of surveillance and public health response. Between 1989 and 1990, New York State experienced a tripling of early syphilis cases. Due to an increase of cases among women of childbearing age, congenital syphilis increased 10-fold during this same period. By utilizing timely descriptive data from the state's surveillance system, NYSDOH responded by commencing an educational campaign that targeted high-risk groups in such sites as emergency rooms, methadone maintenance programs, family planning programs, prisons, and human immunodeficiency virus (HIV) test sites.

Tuberculosis provides another example of surveillance guiding public health response. In the years following 1978, New York State experienced a resurgence of TB, with case rates in New York City five times the national average. Multidrug-resistant TB emerged in multiple nosocomial HIV-related outbreaks, as did a multidrug-resistant strain isolated in more than a dozen New York State hospitals.¹⁻³ Several studies documented the spread of these strains through the New York State prison system.^{4,5} Epidemiologic surveillance and public health response were intensified, with collaboration among the state, New York City, and CDC. NYSDOH's strategy included releasing guidelines for TB control in hospitals, with an emphasis on early identification and treatment of TB patients and enhanced PPD (purified protein derivative) skin testing for hospital employees. The state also implemented rapid, state-of-the-art identification and susceptibility testing of multidrug-resistant TB at the state's Wadsworth Laboratory.

New York State responded to the resurgence of TB with a five-fold increase in spending between 1990 and 1994. The increased funding supported not only

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surveillance, but also laboratory costs, research, TB control staff, and enhancements to the Directly Observed Therapy (DOT) program. The DOT program utilizes trained hospital and outreach personnel to ensure compliance with the lengthy regimen associated with TB treatment.⁶ In March 1995, the DOT program in New York State had 1,200 active enrollees; approximately 1,500 individuals had completed treatment. This is a marked increase over the 69 individuals enrolled in the DOT program just three years earlier. The NYSDOH TB control program, in collaboration with New York City and federal agencies and assisted by enhanced surveillance, resulted in a 16% decrease in TB cases between 1992 and 1994. This decrease in TB accompanied a concomitant decrease of 25% in prison cases. (TB cases in correctional facilities decreased from 92 in 1992 to 75 in 1994; by 1996, recorded cases had dropped to 35, a net decrease of 62% since 1992 according to unpublished data from NYSDOH Bureau of TB Control.)

While HPS emerged in the southwestern US in 1993, New York State had its first confirmed death from hantavirus infection in 1994. NYSDOH collaborated with CDC, the Rhode Island Department of Health, and local health agencies in an intensive investigation of potential exposure sites. A retrospective survey was undertaken of 915 samples of frozen rodent blood previously collected for Lyme disease surveillance; results from this serosurvey indicated that 11% of the samples were positive for the Four Corners virus. In this retrospective study, it was determined that 23% of the samples were positive for hantavirus in the Long Island area, with a 17% seropositive rate in the lower Hudson Valley.⁷

The health departments of New York City and New York State established an active human surveillance initiative that queried hospitals for specimens from unexplained acute respiratory distress syndrome. This surveillance of the syndrome played an important role in identifying a second case of HPS, which occurred in Suffolk County. HPS is now a reportable condition in New York State; a similar unexplained cluster of cases of invasive Group A streptococci motivated the NYSDOH to include this in its list of reportable conditions.

Also, NYSDOH has responded to an increase in nosocomial infections. Studies have documented that each year from 3% to 5% of hospitalized patients in New York State acquire nosocomial infections; nationwide, an estimated 2 million patients acquire nosocomial infections annually.⁸ The emergence of antibiotic-resistant nosocomial infections, such as vancomycin-resistant enterococci (VRE) and penicillin-resistant pneumococci, has prompted heightened surveillance in New York State.

In 1994, NYSDOH surveyed all 361 state-licensed microlaboratories to determine the month and year each facility first encountered VRE isolates. In 1990,

only two counties, New York and Nassau, had hospitals that had identified VRE. By 1992, most of New York City and Westchester, Albany, and Erie counties had encountered VRE. By 1993, hospitals in all major metropolitan counties and many rural ones had isolated VRE. Finally, in 1994, over half the counties had reported VRE; by 1995, every hospital in New York City had encountered at least one isolate of VRE.

With respect to antibiotic resistance, health departments have an important role to play in surveillance, outbreak control, education, and development of guidelines regarding appropriate use of antibiotics. New York State recently established an Infection Control Advisory Committee, consisting of experts throughout the state, to advise on necessary elements in a response to antibiotic resistance.

The state of New York should enhance its existing surveillance capabilities by improving communications among local health departments, the New York City Department of Health, the federal government, and other collaborating agencies. A specific emphasis should be placed on monitoring drug-resistant organisms. Improving the timeliness and accuracy of disease reporting data should be a component of this enhancement.

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