

Hospitals Make Strides in Infection Control

By Elena A. Bourganskaia, MD

Odessa Oblast Hospital has initiated a comprehensive program to protect hospital personnel from blood borne infections. Staff at City Hospital #2 in Vladivostok, Russia dry their hands on single-use paper towels, rather than wiping them on reusable ones that can spread infection. The trauma intensive care unit at Pirogov Hospital in Moscow has established an active, ongoing surveillance for nosocomial infections, significantly reducing infection rates in the unit. And Sokolov Medical Center in St. Petersburg has recently conducted its first infection control survey and has made strides in changing the image of hospital epidemiology from a policing force to a collaborative problem-solving program that involves staff participation from a number of departments.

These are some of the achievements that have been made by partner hospitals as part of the AIHA Infection Control Initiative. Typically, an active surveillance system for nosocomial infections is missing in NIS hospitals, and yet it should be the cornerstone of the infection control program. Infection control planning should be based on surveillance data that is supported by microbiological results. To do this, it is necessary to shift the focus of microbiology laboratory activities from routine testing of the environment and staff to patient care. Instead of routine culturing of the walls and other surfaces, microbiology resources are directed to cultures of clinical specimens such as blood, urine and wounds. Clinical cultures are far more valuable than the environmental cultures since they provide concrete evidence of pathogenic microorganisms and antibiotic susceptibility data necessary for correct clinical diagnosis and appropriate antibiotic therapy. The shift can occur only if the appropriate ministries of health recognize the need for change and are willing to eliminate punitive regulations that drive most of the environmental and staff culturing.

When freed up from wasting its resources on unnecessary tests, such as of germs in the air, the microbiology laboratory can redirect its efforts toward evaluating antibiotic prescriptions and drug resistance. One survey team estimated that approximately tens of thousands of dollars could be saved per year in a large surgical hospital by changing the type of antibiotic used for preventing post-surgical infections, the number of doses and the time when the antibiotic is administered.

US infection control experts that represent the Society of Hospital Epidemiology of America (SHEA), CDC and partnership institutions have been working with the Ministries of Health in Russia and Ukraine on developing a model hospital survey protocol. The protocol is based on materials developed by the International Hospital Infection Prevention and Quality Assessment Program (INQUAL) and serves as an excellent tool for assisting hospitals in developing their infection control programs. To date, the Russian Federation and Ukrainian Ministries of Health have assisted AIHA in conducting four infection control hospital surveys at Odessa Oblast Hospital in Odessa, Ukraine; Sokolov Medical Center in St. Petersburg; City Hospital #2 in Vladivostok; and Pirogov Hospital in Moscow.

Typically, everybody who has a significant role in the hospital infection control is interviewed by the survey team. This includes THE chief physician, hospital epidemiologist, infection control nurse, medical directors and supervisory nurses of intensive care units (ICUs), operating rooms (ORs), surgical units, directors of microbiology laboratories, pharmacies, supervisors of reprocessing of equipment, instruments and reusable supplies. The areas of the hospital typically observed are ICUs, ORs, surgical units, newborn nursery, microbiology laboratory, blood bank, pharmacy, central sterilization and reprocessing area.

After observations of department practices, the team conducts a point prevalence survey to determine the proportion of patients who have active infections. First, a bedside survey is performed to collect information about the number of patients who are hospitalized in different clinical units, utilization of invasive devices and procedures, and patterns of prescription of

antibiotics. During the bedside survey, it is determined whether the patient has any risk factors for a nosocomial infection. If risk factors are present, the patient's hospital record is reviewed. Occasionally, it is necessary to examine a patient, for instance, to determine the status of a surgical wound.

A preliminary summary of the findings is provided to the hospital leaders at the conclusion of the survey. A detailed written report follows within one month and provides survey results and comprehensive recommendations. The report is treated as a confidential document and can be quoted only with the permission of the hospital's chief physician.

It is important for hospital staff to understand that only about one-third of nosocomial infections are preventable. Given current knowledge and technology, some nosocomial infections are not preventable regardless of the quality of hospital care and the infection control program. As it is absolutely critical to encourage cooperation from all hospital staff to participate in the infection control program, hospital units and personnel should not be penalized simply because a nosocomial infection occurred. Infection control must be perceived by hospital staff as a quality improvement activity and only very rarely should it carry out a regulatory/policing function.

One of the most important findings of all four surveys is that the hospital administrations are thinking strategically and moving rapidly to modernize the hospital through a variety of innovative programs. The administrators also understand the cost savings possible with improved infection control and the elimination of wasteful practices. Many of AIHA partnership hospitals have dedicated and well-respected epidemiologists who are capable of building a strong program if they are given appropriate resources and support from the hospital's top management.

The next steps in AIHA's Infection Control Initiative include final modification of the survey protocols based on the Russian and Ukrainian experience and continuation of the training of trainers program for ministerial experts and faculty of future NIS regional infection control training centers. Also, in response to recommendations related to the microbiology laboratory and the use of antibiotics, AIHA is planning to implement several pilot projects to facilitate the appropriate use of antibiotics in the NIS hospitals. This includes upgrading the level of microbiology laboratory services to perform quality antibiotic resistance testing in a number of NIS hospitals; introducing a database program developed by WHO to collect and analyze data; and planning and implementing mechanisms--such as restrictions on prescriptions, special order forms and elimination of duplicate antibiotics--to minimize the misuse of antibiotics. We hope that when developed, the pilot partnership sites will be designated as WHO collaborating centers, further enhancing the reach and expertise of the infection control program.

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