

## Controlling Infection

*By Joanne Neuber*

"Modern medicine dramatically increases the risk of nosocomial infections. And the cost associated with treating infections will undoubtedly continue to increase," warned Edward O'Rourke, MD, medical director of infection control at Children's Hospital and assistant professor of pediatrics at Harvard Medical School in Boston, MA.

In the US, there are over two million nosocomial infections per year; these infections represent the tenth leading cause of death. In Mexico, hospital-acquired infections are thought to be the third leading cause of death. Reports from NIS partners suggest that infection is also a serious problem in the NIS. Yet effective infection control can serve as an important cost-saving measure for improving a population's health in both the US and NIS, agreed panelists attending the AIHA infection control workshop.

Pirogov First Municipal Hospital, a 1,200-bed, 200-year-old hospital in Moscow, Russia, has already begun to reduce costs associated with treating nosocomial infections in its Traumatology Department. Alexander Turchev, MD, resuscitation specialist in the department, said nosocomial infections were reduced from 23.5 percent in 1994 to 16 percent in 1995. "By applying the recommendations presented by our partners and introducing more effective ways to manage patient respirators, we have provided a cost savings of 75 million rubles for Pirogov," Turchev concluded. The rates appear high due to the nature of the medical and surgical problems treated in the resuscitation department, O'Rourke added.

Turchev's approach coincides with the recommendations presented by US partners, which include increased hand washing and use of gloves, use of perioperative antibiotics to prevent surgical wound infections and the appropriate use of the microbiology laboratory. In addition, Turchev's results show that active surveillance for nosocomial infections allows detection of problem areas for which cost-effective solutions can be found.

In the NIS, savings stem from increased use of antibiotics to fight infection. However, in the US, where health care personnel costs are higher, savings come from shorter hospital stays due to infection fighting efforts.

Vladimir Grubnik, MD, chief of surgery at Odessa Oblast Hospital in Ukraine, added that his hospital saw a postsurgical decline of sepsis by 50 percent in 1995, due in part to changes in surgical techniques and the bolstered role of the nurse in infection control.

Ongoing partnership activity includes a recent infection control survey at Pirogov Hospital, which was sponsored jointly by AIHA and the Society of Health Care Epidemiology of America. Conducted by a team of US epidemiologists, this survey provides a detailed evaluation of the organization of the infection control program, patient care practices and facilities, reprocessing, antibiotic use, the microbiology laboratory, hospital plant facilities and occupational health.

"Some surgeons were afraid of [admitting the high] rate of postsurgical infections, and thus declined to participate in this surveillance," admitted Andrei Lishansky, MD, deputy chief physician at Pirogov. He added that a difficult first step in creating this surveillance program was changing the mentality of hospital staff toward the survey.

Despite these barriers, Pirogov has made significant progress in developing an infection control program, he said. These include creation of a hospital epidemiologist position, introduction of active surveillance for nosocomial infections, review of patient care practices, planned updates for the microbiology laboratory, and--most importantly--development of a hospital environment that encourages clinicians to cooperate with the administration and

hospital epidemiologist in both determining rates of nosocomial infections and seeking solutions.

O'Rourke noted that costs associated with infections are directly related to patient length of hospital stay, adding that unnecessary use of expensive antibiotics should be eliminated. Wasteful practices to avoid, according to O'Rourke, include the use of antibiotics such as newer, stronger third-generation cephalosporins for infection prevention, when less-expensive antibiotics, such as first-generation cephalosporins, work just as well. He also advised against administering prophylactic antibiotics more than two hours prior to or more than 24 hours after surgery.

"There is still a lot to do," admitted O'Rourke, "but it is better to light a candle than walk in the darkness. And it is clear that there are many bright candles at Pirogov."