

# Health Services Research Impact

## Health Care Worker Safety

### SNAPSHOT OF SUCCESS

#### CDC Initiatives May Prevent Needlestick Injuries in Health Care Settings

#### THE ISSUE

Health care personnel are at risk for occupational exposure to bloodborne infectious diseases while providing patient care. For example, a worker could sustain an accidental injury with a needle or other sharp object that may have been used on a patient infected with hepatitis or HIV. The Centers for Disease Control and Prevention (CDC) estimates that 1,000 needlestick injuries occur daily in hospitals.

Health services research conducted by CDC since 1983 has assessed both the risk of infection after occupational needlestick injuries and strategies for prevention. The CDC's National Surveillance System for Healthcare Workers has collected information on more than 20,000 blood exposures reported by more than 100 hospitals. Almost two-thirds of exposures to hollow-bore needles were considered preventable by adopting strategies such as eliminating unnecessary needle use or using safer needles.



CDC has provided support to several hospitals to implement and evaluate a variety of needlestick prevention strategies. In one hospital, a 52 percent decline in the injury rate followed hospital-wide

implementation of a safety-winged steel needle. In another, needlestick injuries were prevented by using a combination of interventions, including safer devices, education, and practice changes.

In collaboration with partners in South Carolina, CDC has implemented the "Stop Sticks Campaign," a multi-year demonstration project that has three goals: 1) To assess the effectiveness of a multi-media campaign in improving organizational efforts to reduce occupational needlestick injuries; 2) To increase the use of safe work practices by these personnel; and 3) To assist health care facilities in implementing effective communications strategies for needlestick prevention.

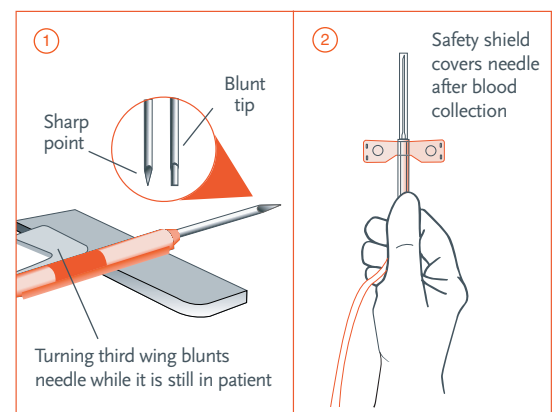
CDC is also developing a prevention program for health care personnel employed in correctional settings. Through a health communications campaign, it will educate workers about how to reduce their exposure to bloodborne pathogens. CDC will gather information to shape the program from data collected from visits to correctional facilities and from a series of focus groups conducted among corrections employers and employees.

In 2004, CDC published the "Workbook for Designing, Implementing, and Evaluating a Sharps Injury Prevention Program," which includes a set of practical program implementation tools. The Workbook helps nurses and physicians to use local performance and quality indicators to plan, implement, and monitor prevention interventions.

In collaboration with the Massachusetts Department of Health, CDC launched a pilot in early 2003 to evaluate the Workbook tools in three Massachusetts hospitals. "The tools have enabled us to identify devices associated with injuries and to pinpoint when and where injuries occur," said Pat Fleming, manager of Employee Health Services at Winchester Hospital. According to Fleming, CDC's Workbook will be most successful if hospital senior managers strongly support a culture of safety and make resources available for implementation.

CDC's Workbook offers a comprehensive approach to preventing sharps injuries. "Most hospitals have introduced safer devices, but there has been little assessment of their impact on injury reduction," says CDC Epidemiologist Linda Chiarello, R.N., M.P.H., who is the Workbook's primary author. "CDC's Workbook will show hospitals how to collect the data necessary to understand how injuries are occurring, identify interventions appropriate for a specific problem, and measure the impact of the changes made." These are critical steps for maintaining an effective sharps prevention program.

#### Two example of winged steel needles



① Blunt-tipped needle    ② Needle with protective shield

## RELATED INFORMATION

Many types of workers are at risk of exposure to bloodborne viruses. Such personnel include nurses, physicians, technicians, first responders, and other health care professionals. Workers who do not use sharps for their work, such as those employed in environmental services and laundry, and maintenance personnel are also at risk of accidental exposures to improperly discarded needles and other sharp medical instruments.

To help protect employees from this risk, the Occupational Safety and Health Administration (OSHA) issued the Bloodborne Pathogens Standard in 1991. The Needlestick Safety and Prevention Act of 2001 empowered OSHA to enhance enforcement of its requirement for the implementation of safer devices. For more information, visit: [www.osha.gov/SLTC/bloodborne pathogens](http://www.osha.gov/SLTC/bloodborne pathogens).

## CDC FACTS

Each year, U.S. hospital-based health care workers sustain an estimated 384,000 percutaneous (through-the-skin) injuries.

Surveys of health care personnel indicate that 50 percent or more do not report their occupational sharps injuries.

The average risks of transmission following percutaneous exposure to infected blood are:

Hepatitis B virus – 6 percent to 30 percent  
 Hepatitis C virus – 2 percent  
 HIV – 0.3 percent

## WEB SITES

NIOSH Alert: Preventing Needlestick Injuries in Healthcare Settings  
[www.cdc.gov/niosh/2000-108.html](http://www.cdc.gov/niosh/2000-108.html)

OSHA Needlestick Information  
[www.osha-slc.gov/SLTC/needlestick/index.html](http://www.osha-slc.gov/SLTC/needlestick/index.html)

Hospital eTool - HealthCare Wide Hazards Module: Needlesticks/Sharps Injuries  
[www.osha.gov/SLTC/etools/hospital/hazards/sharps/sharps.html](http://www.osha.gov/SLTC/etools/hospital/hazards/sharps/sharps.html)

Safety Devices for Phlebotomy Procedures  
<http://wonder.cdc.gov/wonder/prevguid/m0045648/m0045648.asp>

## What is health services research?

Health services research is the multidisciplinary field of scientific investigation that studies how social factors, financing systems, organizational structures and processes, health technologies, and personal behaviors affect access to health care, the quality and cost of health care, and ultimately our health and well-being. Its research domains are individuals, families, organizations, institutions, communities, and populations.

— *AcademyHealth, 2000*

“We need to create a culture of safety in the work environment to make sure that health care organizations promote and support sharps injury prevention.”

— *Julie Gerberding, M.D., M.P.H.*  
*CDC Director*



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