

Needlestick Injuries Among Health Care Workers in Washington State, 1996-2000

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List of Abbreviations and Acronyms

ANSI	American National Standards Institute
CLMOCCPN	.....	Occupational Class Code
EPINET	.....	Exposure Prevention Information Network
FTE	.....	Full-time equivalent employee
HCW	.....	Health care worker
HIV	.....	Human immunodeficiency virus
L&I	.....	Washington State Department of Labor and Industries
LINIIS	.....	Labor & Industries Industrial Insurance System
MIPS	.....	Medical Information and Payment System
NIOSH	.....	National Institute for Occupational Safety & Health
NSI	.....	Needlestick injury
OSHA	.....	Occupational Safety and Health Administration
PI	.....	Prevention Index
SIC	.....	Standard Industrial Classification
SOC2K	.....	Standard Occupational Classification
WIC	.....	Washington Industrial Classification

Executive Summary:

Health care workers are vulnerable to serious infectious diseases such as human immunodeficiency virus (HIV), hepatitis B virus and hepatitis C virus following a needlestick injury. We used Washington State workers' compensation claims' databases to characterize work-related needlestick injuries (NSIs) in health care services (SIC 80) and the two major State Fund teaching hospitals that were classified under education services (SIC 8221). We obtained all accepted claims filed between 1996 and 2000 where a claim was identified as 'needlestick' if the American National Standard Institute (ANSI) source code was '2202' or the ANSI associated source code was '22021', '22025', '22029', '22022' or '22020' or the text word search of the workers' compensation report of accident form for specific injury sources contained 'needlestick'. We studied a 5 to 10 line event description in each of the State Fund accepted claims to categorize types of NSIs. We used occupational class code (CLMOCCPN-3 digit) and standard occupational classification (SOC 2K) (6 digit) code to define the job category. Claim incidence rates were calculated by year and expressed as number of claims / 10,000 FTEs. Trends in incidence rates over time were tested using a Poisson regression model. We combined the rank orders of both frequency and relative risk to create a "Prevention Index" (PI).

Of 3,303 State Fund accepted NSI claims, 2700 were in health services sector (SIC 80) and 603 in the two major State Fund teaching hospitals. Health care workers in SIC 80 experienced an overall average workers' accepted claims rate of 67 claims per 10,000 FTEs per year, with the rate increasing from 58 claims per 10,000 FTEs in 1996 to 72 claims per 10,000 FTEs in 2000. Trend analysis showed an annual average

increase of 5.84% (95% CI=2.74%; 9.06%). In health care services (SIC 80) nurses accounted for the largest number of health care workers involved, with 770 (28%) needlesticks; followed by dental assistants, with 416 (15%); laboratory technicians, with 275 (10%); and medical assistants, with 267 (9%) incidents. These four job categories along with nursing aides and physicians accounted for the majority (78%) of needlestick injuries. Technicians, dental hygienists and dentists also sustained a significant proportion (10%) of NSIs as well.

In the two major State Fund teaching hospitals, nurses accounted for 40% of the NSIs and physicians 28%. Laboratory workers, technicians and housekeeping staff comprised another major portion (17%) of NSIs. Medical and nursing students were involved in 0.8% of the NSI claims.

The most common procedure reported to cause such injury in each of the job categories also varied. Among physicians, most of injuries occurred while suturing or doing a surgical procedure. Nurses sustained a needlestick while disposing of a used needle, injecting medicine, recapping a needle, or drawing blood. Dentists sustained needlesticks while recapping a needle or giving local anesthesia. Dental assistants received NSIs while recapping a needle or cleaning instruments. Sanitary staff had NSIs while disposing of garbage in the majority of cases. Understanding the occurrence of NSIs in the target population is critical to implementing control measures. This study allowed identification of the locations where the highest number of injuries occur, and the major activities leading to these injuries over a range of years.