



Healthcare Workers in Non-Hospital Settings at Substantial Risk of Exposure to Bloodborne Pathogens

In one of the largest studies of its kind, researchers from the Mailman School assessed the risk of exposure to bloodborne pathogens among non-hospital based registered nurses (RNs), and found that nearly one out of ten of the more than 1,100 nurse participants reported at least one needlestick injury in the previous 12 months. Findings of the study are published in the December issue of *Industrial Health*.

According to Robyn Gershon, DrPH, professor of Sociomedical Sciences and the study's principal investigator, "These rates of exposure are surprising since they are similar to rates reported for hospital-based nurses, even though hospitalized patients generally have high levels of acuity of patient care (i.e., more procedures, including more invasive procedures), than are typically performed in community healthcare settings." But, as Dr. Gershon and colleagues point out, these findings are not completely unexpected since patient care, including more complex types of care, is increasingly delivered at non-hospital based healthcare facilities, including out-patient clinics, nursing homes, doctor's offices, patients' homes, and public health clinics.

The authors note that increasingly complex procedures, many of which involve needles and other sharp instruments, are being performed, primarily by well-trained registered nurses, in these non-hospital settings, thereby increasing the potential risk of exposure. The population at risk is large, since non-hospital based nurses represent a substantial portion of the overall nursing workforce; approximately 40% of the 2.3 million RNs in the U. S. are employed in non-hospital settings. Extrapolated to the entire non-hospital based RN workforce in the United States, the authors estimate that the annual number of needlesticks in the non-hospital RN workforce may be in excess of 145,000 per year.

Importantly, the researchers found that 70% of the exposed nurses were never seen by a healthcare provider at all, even though appropriate and timely follow-up of these incidents can reduce the risk of infection. Findings from the study also suggest that many of the exposed nurses may be at increased risk of infection with serious bloodborne pathogens, such as the human immunodeficiency virus (HIV), hepatitis C virus and hepatitis B virus, since only 65% of these serious exposures were ever formally reported to the nurse's administrator. Fear of getting into trouble, not having enough time to report, and not knowing how to report an exposure, were the three most common reasons given for not reporting.

According to Dr. Gershon, "These exposures place them at risk of potential infection, therefore efforts to facilitate adequate post-exposure care must be made by administrators; fortunately, rapid access to post-exposure care may significantly help reduce the risk of infection."

The study also provided important information regarding the risk factors associated with these exposures, which have been well categorized for the hospital-based workforce. The researchers found similar risk factors in the non-hospital based nurses, including heavy patient loads, long working hours, poor safety climate, inadequate training and lack of safety devices. "While the risk factors may be similar for both hospital-based and non-hospital based registered nurses, there are numerous barriers to effective infection control and safety programs in non-hospital settings," remarked Dr. Gershon. A large proportion (approximately one-third) of non-hospital RNs work in establishments with fewer than 100 employees, and a sizable percentage (16%) work in establishments with fewer than five employees. "As a result, many of these facilities lack on-site infection control and employee health programs," observed Dr. Gershon and colleagues.

According to Dr. Gershon, "With nearly 900,000 registered nurses employed in a wide range of non-hospital settings, and patient prevalence rates for certain bloodborne pathogens similar or even higher in non-hospital based settings, it is important to develop and implement targeted risk reduction strategies that are tailored to these unique non-hospital settings." As the authors note, "Clearly it is best to eliminate these types of exposures in the first place. In fact, participatory action teams (PAR), which were formed as part of the study, identified several risk reduction strategies, with an emphasis on improved availability of safety devices to help eliminate or reduce the risk of injury."

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