



Naval Safety Center

LESSONS LEARNED

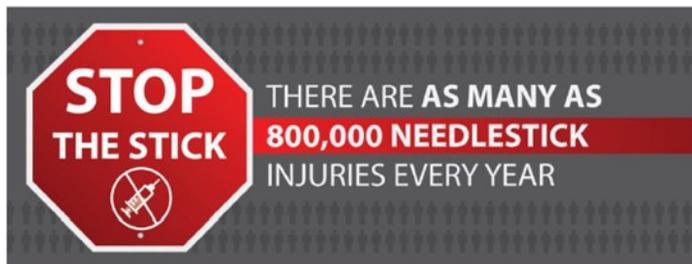


18-13

Medical / Dental Sharps Injuries

It's a dangerous job being a medical or dental healthcare worker!

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The Naval Safety Center collects a variety of mishap data, including info about medical and dental healthcare workers (HCWs) and staff who experience injuries at work. The hazards may be common knowledge for HCWs, but Safety and Occupational Health (SOH) professionals may not know that every day they are at occupational risk of exposure to dangerous and deadly blood-borne pathogens through contaminated needle sticks or sharps injuries, collectively identified as “NSIs”. These NSIs are the result of skin penetration by a needle or sharp object which has been in contact with blood, tissue, or other body fluid before exposure.

Of course, we have the best dental and medical care in the world ... even the President of the United States uses Navy Medicine! You would think with all the policies, procedures, training, and leadership throughout the Navy Medicine enterprise we wouldn't have a problem with sharps injuries. The Navy currently has a downward trend in reported injuries for HCWs (e.g., nursing staff, lab workers, doctors, dentists, dental technicians, and housekeepers). Yet, as we dive into the data and some particular types of mishaps, it is evident that HCWs truly have dangerous professions, and NSIs pose the greatest risk to these frontline workers. They must adhere to strict training, procedures, and attention to detail.

The Centers for Disease Control and Prevention (CDC) state that more than 600,000-800,000 medical HCWs (not including dental) in the hospital setting are injured with a contaminated needle or other sharp device annually. Of these injuries, needle sticks make up more than 80% of all NSI exposure incidents. Looking at solely our own Navy mishap data, the graph depicted in Figure 1 shows that on average, our Navy dentists, lab technicians, assistants, or hygienists will experience 20.5 NSIs annually (~1.6/month). Medical HCW injuries are

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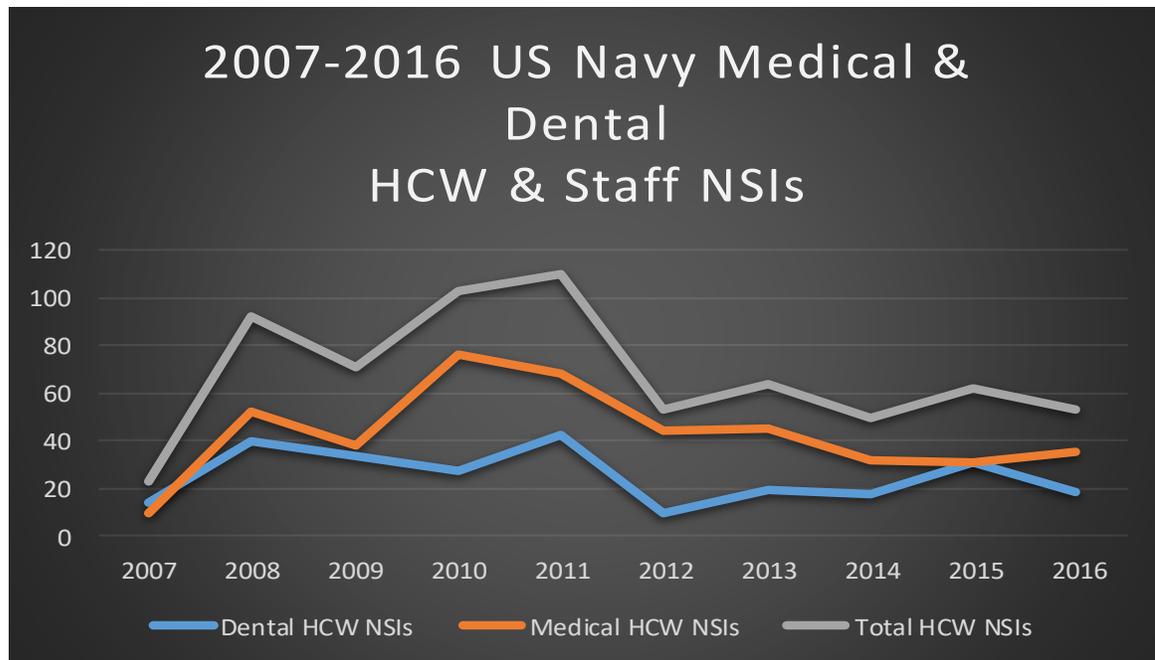


Figure 1. US Navy Medical & Dental HCW & Staff NSIs

nearly double that number at 35.3 NSIs each year (~2.5/month). As concerning as those numbers may be, the CDC estimates that about half or more of NSIs go unreported! Specifically, housekeepers, laboratory workers, or other HCWs get injured but may not know they need to report the mishap.

Every NSI carries a risk of infection from blood-borne pathogens. Exposures must not be considered part of the job or the cost of doing business. On the contrary, preventing NSIs is imperative to protect HCWs from infectious diseases like human immunodeficiency viruses (HIV) and hepatitis B and C. There are more than 20 other infections that can also be transmitted including syphilis, malaria, and herpes. At least 1,000 HCWs nation-wide contract serious infections due to NSIs each year.

Typical NSIs result from hypodermic needles, syringes, suture needles, winged-steel needles, blood collection needles, scalpels, IV stylets, cavitrons (scalers), guide wires, lancets, dental burs, etc. "Exposure-prone procedures" are where the likelihood of an NSI is greatest. A prime example of such a procedure is giving immunizations to a newborn. Many providers ended up poking themselves because the infant wouldn't stay still. Another

1,000 Healthcare Workers contract serious infections from NSIs each year!

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example is dentists who accidentally stick their own finger when injecting multiple local anesthetic doses into the mouth of a patient for a procedure. Additional ways our Navy HCWs are injured via NSIs include:

- Recapping needles
- Passing an instrument to a provider/dentist
- Reaching for an instrument/tool on the tray
- Pulling dental bur from hand piece
- Failing to dispose of used needles properly in puncture-resistant sharps containers
- Cleaning the room where people failed to dispose of sharps properly



There are many additional stories to highlight, but ultimately each NSI was the result of not following safe work practices.

SOH professionals can apply a hierarchy of controls to reduce exposures (e.g., high risk procedures, safety devices, work practice controls, and PPE). Evidence has proven that devices with safety features significantly reduce needle stick injuries on the medical side; however, they have not shown a reduction in NSIs in the dental workplace.

Preventing NSIs must remain the top priority to minimize the risk of transmitting blood-borne viral infections. Leadership should focus on raising awareness and promoting individual safety accountability which prepares and motivates HCWs to make the changes to mitigate injuries. A sharps injury prevention campaign must resonate from the top down, through the organization's safety culture and the management's commitment to prevent sharps injuries. An effective campaign must select and evaluate devices with safety features, consider competence-based infection control training, and encourage everyone, to include housekeeping staff, to report NSI injuries. Lastly, all HCWs have a major stake in NSI prevention through compliance and knowledge. They must adhere to work practice



controls (e.g., follow routine universal precautions, avoid recapping needles), attend required infectious control training, and report NSI hazards and injuries promptly so that they can receive appropriate follow up care and prevent recurrence.