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EXPO-S.T.O.P.: A national survey and estimate of sharps injuries and mucocutaneous blood exposures among healthcare workers in USA

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Abstract

Purpose: Blood exposure (BE) among healthcare workers (HCW), either from percutaneous sharps injury (SI) or mucocutaneous (MC) exposure, is a serious occupational risk that healthcare facilities (HCF) strive to reduce. Large exposure-rate databases assist in benchmarking this goal however currently in the United States no nation-wide, annual surveys are conducted. In 2012 The Association of Occupational Health Professionals in Healthcare (AOHP) commissioned a new Exposure Study of Occupational Practice (EXPO-S.T.O.P.) among its members to establish a nationally representative BE database and benchmark resource.

Design: A nine-item electronic survey was developed and distributed to AOHP members to ascertain BE incidence and denominator data.

Methods: 2011 data was requested on: Total SI and MC incidence in the HCF and during surgical procedures; full-time equivalent (FTE) staff; average daily census, adjusted patient days (APD); teaching status, medical staff inclusion; and state. Incidence rates per 100 FTE, per 100 Occupied Beds (OB), and per 1000 APD were calculated and compared with relevant US databases. Best practices from the top 10 lowest-exposure teaching and non-teaching hospitals were also ascertained. Survey results were used to calculate a national estimate of BE exposures in hospital and non-hospital settings.

Findings: Responses from 125 hospitals in 29 states were received making the survey the largest in the United States. Overall SI incidence rates were: 24.0/100 OB (17.8 in non-teaching and 27.4 in teaching hospitals); 1.89/100 FTE; and 0.53/1000 APD. Overall MC incidence rates were 9.0/100 OB (7.1 in non-teaching and 10.1 in teaching hospitals); 0.69/100 FTE; and 0.20/1000 APD. Effective reduction strategies in low-incidence, "sharps aware" hospitals include: intense and repeated competency education; monthly institutional emails; easy incident reporting; management involvement; immediate action on 'trends'; and zero as goal. Extrapolation of survey results indicate that in U.S. hospital and non-hospital settings, 321,907 SI HCW sustain SI and 119,437 sustain MC, thus 441,344 HCW sustain BE annually.

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