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RACIAL AND ETHNIC DISPARITIES IN WORK-RELATED INJURIES AND SOCIO-ECONOMIC RESOURCES AMONG NURSING ASSISTANTS EMPLOYED IN US NURSING HOMES. SangWoo Tak*, T Alterman, S Baron, G M Calvert (NIOSH/CDC, Cincinnati, OH 45226)

Background: Nursing assistants comprise the vast majority of the direct care workforce in nursing homes. Although previous studies have documented high rates of work-related injury among nursing assistants, little is known about how these rates and other nursing assistant job characteristics vary by race and ethnicity. Methods: The 2004 National Nursing Assistant Survey (NNAS) data were analyzed to estimate the prevalence of work-related injuries by race and ethnicity. Adjusted prevalence ratios (APRs) were estimated using a generalized linear model with a Poisson distribution assumption. Results: A total of 2,880 working nursing assistants in 485 randomly sampled nursing home facilities in 2004 were included in this study. These represent approximately 677,000 US NAs. Injury with the highest prevalence among NAs was 'scratch, open wounds, or cuts' (44%) followed by 'back injuries' (17%) and 'black eyes or other types of bruising' (16%). The prevalence of 'human bites' was 12% representing 77,882 US NAs in nursing homes. The APR for back injury was 0.76 for non-Hispanic black NAs (95% confidence interval [CI]: 0.59–0.98) compared to non-Hispanic white NAs. APRs for human bites was 0.47 for non-Hispanic black (95% CI: 0.36-0.62), 0.72 for Hispanic (95% CI: 0.55-0.95), and 0.51 for other racial and ethnic groups (95% CI: 0.34-0.78), compared to non-Hispanic white NAs. Conclusions: Minority racial and ethnic groups were less likely to report having experienced injuries and more likely to report intention to leave, compared with non-Hispanic white NAs. This may be due to the difference in the nature of their jobs and the extent of their engagement in assisting patients with their activities of daily living. Future research should focus on identifying preventable risk factors so that injuries can be avoided and equity among racial and ethnic groups attained.

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POSTDEPLOYMENT HOSPITALIZATION EXPERIENCE OF SERVICE MEMBERS DEPLOYED IN SUPPORT OF THE WARS IN IRAQ AND AFGHANISTAN. *I G Jacobson, MPH, T C Smith, MS, PhD, C A LeardMann, MPH, B Smith, MPH, PhD, M A K Ryan, MD, MPH (Naval Health Research Center, San Diego, CA 92106)

Significant public and veteran concern exists over the health impact of military deployments to Iraq and Afghanistan. This study investigates morbidity among deployers by comparing postdeployment hospitalizations to both predeployment hospitalizations and hospitalizations of nondeployed service members. To compare postdeployment with predeployment morbidity, we examined active-duty military personnel who deployed for the first time in support of the wars in Iraq and Afghanistan in 2003 or 2004 and had at least 12 months of service prior to deployment. We also compared postdeployment hospitalizations to hospitalizations of personnel serving on active-duty from May 2002 through May 2004 without a deployment from September 2001 through August 2006. This historical prospective investigation utilized Cox's proportional hazards time-to-event modeling. Hospitalizations for any cause and hospitalizations based on 14 broad diagnostic categories were examined. After adjusting for demographic and occupational variables, the postdeployment risk for any-cause hospitalization was higher in comparison with predeployment (HR, 1.57; 95% CI, 1.48-1.66), but lower in comparison with nondeployers (HR, 0.95, 95% CI, 0.92-0.98). These findings highlight an increased postdeployment rate of hospitalization when compared to predeployment rates in an active-duty military population, which became consistent with rates of the general active-duty military after return from deployment. Increased risk of hospitalization over a diverse set of health outcomes does not suggest a single etiology of health problems associated with deployment but may instead be explained by a significant health care shift after the 1991 Gulf War, including postdeployment screening and pressure on military leaders to encourage medical evaluation among deployers for conditions they may have previously dismissed.

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BENZENE EXPOSURE AND NON-HODGKIN LYMPHOMA: A META-ANALYSIS. *D D Alexander, M E Wagner, M Kelsh (Exponent Health Sciences, Wood Dale, IL 60191)

Numerous epidemiologic studies have investigated the possible relationship between benzene exposure and non-Hodgkin lymphoma (NHL); however, the findings have been unclear. Thus, to clarify any potential association, we conducted a meta-analysis of cohort and case-control studies that were published through 2008. The methodology of all studies was systematically examined, and the studies were tiered based on their relative quality and likelihood of exposure. Sub-group analyses were conducted by design, exposure metric, occupational group, and study quality. Random effects models were utilized to generate summary relative risk estimates (SRRE), and sensitivity analyses were conducted to examine potential sources of heterogeneity. In our overall model, we included data for cumulative exposure, as this metric reflects both intensity and duration. If data for cumulative exposure were not available, the estimate representing the greatest likelihood of exposure was included. The SRRE for the overall model consisting of 6 cohort, 2 nested case-control, and 13 case-control studies was 1.12 (95% CI: 0.95-1.32; p-value for heterogeneity = 0.70). In the meta-analysis of cohort and nested case-control studies only, the SRRE was 1.09 (95% CI: 0.78-1.54; p-value for heterogeneity = 0.57), while the SRRE for the case-control studies only was 1.13 (95% CI: 0.94-1.37; p-value for heterogeneity = 0.58). The reporting of exposure metrics and analytical cut-points were highly variable across studies, thus, limiting analyses. Despite this heterogeneity, no consistent patterns of associations were evident across metrics such as cumulative exposure or intensity. In summary, the results from this quantitative review and meta-analysis do not support an independent association between benzene and NHL.

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NEW-ONSET HYPERTENSION ASSOCIATED WITH COMBAT DEPLOYMENT IN MILLENNIUM COHORT ACTIVE-DUTY, RESERVE AND NATIONAL GUARD MEMBERS. *N Granado, T Smith, M Swanson, R Harris, E Shahar, B Smith, E Boyko, T Wells, M Ryan (Naval Health Research Center, San Diego, CA 92106)

Introduction: Combat deployments present unique stressors to military members. Although stress is postulated to increase blood pressure, little is known regarding a potential role in the development of acute or chronic hypertension. Our objective was to determine the relationship between combat deployment-induced stress and newly-reported hypertension. Methods: A representative sample of multiservice active-duty and Reserve/National Guard members was invited to participate in a 21-year longitudinal study, The Millennium Cohort Study. A total of 77,047 participants completed the baseline questionnaire (2001-2003), while 55,021 completed the first follow-up questionnaire (2004-2006). Multivariable logistic regression was used to estimate the 3-year risk of new-onset hypertension, adjusting for general health, demographics, and occupational and behavioral characteristics. Results: Newly-reported hypertension was identified in 5.7% of deployers and 6.0% of deployers with combat exposures, within the 3-year period. After adjusting for potential confounding, deployers reporting combat exposures were 1.28 times (95% confidence interval, 1.04-1.57) more likely to report incident hypertension compared with deployers not reporting combat exposures. Conclusion: Deployment with reported stressful combat exposures appears to be a unique risk factor for new-onset self-reported hypertension even after adjusting for potential confounding. Future follow-up of this cohort to understand if this becomes chronic and studies evaluating deployment and hypertension diagnosis through blood pressure measurements are recommended.