Purpose: Disaster responders work among poorly characterized physical and psychological hazards with little understood regarding health consequences of their work. We carried out a cross-sectional study to investigate environmental exposures and potentially associated health effects among U.S. Coast Guard emergency workers who responded to Hurricanes Katrina and Rita.

Methods: A post-deployment survey administered to 2,834 U.S. Coast Guard Katrina/Rita responders provided data on exposures and health effects. Prevalence odds ratios (PORs) evaluated associations between baseline characteristics, missions, exposures and health effects.

Results: The most frequent exposures were animal/insect vector (N=1,309, 46%) and floodwater (N=817, 29%); the most frequent health effects were sunburn (N=1,119; 39%) and heat stress (N=810; 30%). Mold exposure accounted for the greatest proportion (12.6%) of medical treatment sought of all exposures queried, while slips, trips and falls accounted for the greatest proportion (28%) of medical treatment sought of all health effects. About 33% of responders reported <5 hours of sleep on average per night. Significant positive associations were found for mold exposure and sinus infection (POR=10.39); carbon monoxide and confusion (POR=6.27); lack of sleep and slips, trips, falls (POR=3.34); lack of sleep and depression (POR=3.01); and being a Gulf-state responder and depression (POR=3.22).

Conclusion: Increasing protection for disaster responders requires provisions for adequate sleep, personal protective equipment, and access to medical and psychological support. Continued surveillance and evaluation of health outcomes in disaster responders is critical to promote and ensure their continued health and by extension, that of the population at large.

P24. Associations of Specific Stressors, Neuroticism, and Perceived Stress Among Police Officers

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Purpose: Examine associations of police work stressors with perceived stress and whether neuroticism, a personality trait indicating negative affect and poor adaptation, influenced this association.

Methods: The Spielberger Police Stress Survey, Perceived Stress Scale, and the NEO-FF-I were utilized in this cross-sectional study of 380 police officers. Linear regression and ANCOVA were used to examine mean perceived stress levels across quartiles of police stressor scores (total, administrative, danger and lack of support). Associations were adjusted for age, sex, race/ethnicity, alcohol use, smoking status, and stratified by high ($\geq$ median) versus low (<median) neuroticism scores.

Results: The mean age of officers was 41.6 years and 27% were female. Adjusted mean perceived stress increased significantly with increasing total police stressor scores (p<0.001) and for administrative, danger, and lack of support stressors (p<0.001, p<0.010, and p<0.001, respectively). Only for neuroticism scores above the median was perceived stress significantly associated with increasing total stress scores (p<0.004) and administrative, and support stressors (p<0.001 and p<0.0002 respectively). The stress of danger was not significantly associated with increased perceived stress (p<0.221) for those high in neuroticism.

Conclusions: Specific types of stressors in police work were significantly associated with perceived stress and this association was evident among officers with higher but not lower levels of neuroticism. Administrative stress and lack of support by police organizations appeared to exacerbate perceived stress among officers high in neuroticism more than the danger of this occupation. Previous research shows that high levels of neuroticism may actually be adaptive in dangerous situations.

P25. A Review of Human Exposure to Dichloromethane, Perchloroethylene and Carbon Tetrachloride in China

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Purpose: The aim of this study was to summarize the major sources of occupational exposure and trends over time in China of exposure to chlorinated solvents including dichloromethane (DCM), perchloroethylene (PCE) and carbon tetrachloride (CTC), and to evaluate adverse health effects that have been reported to be associated with these solvents.

Methods: We conducted a bibliographic search of scientific databases including PubMed, China National Knowledge Infrastructure, government publications with relevant terms. More than 150 papers and literature in Chinese and English were reviewed for this study.

Results: We found that DCM was widely used as adhesives ($\sim$35%), a solvent in the pharmaceutical industry ($\sim$32%) and cleaning processing ($\sim$8%), raw materials in manufacturing of polyurethane foams ($\sim$20%). PCE was primarily used in dry cleaning facilities ($\sim$60%), while almost $\sim$99% CTC was used to manufacture non-ODS (ozone-depleting substances) feedstock. Over the past 10 years, the total consumption of DCM and PCE, but not CTC, has been increasing. Further, published studies suggest that exposure levels have lessened as a result of national standards that have been issued in China. However, in some smaller factories, the exposure often exceeds the national standards. Furthermore, acute poisoning and chronic diseases suspected to be associated with these solvents have become a health burden for exposed workers.

Conclusions: These findings suggest the need for more epidemiological studies in China with robust exposure assessment and health effects and data on health outcomes, in order to further characterize disease-associations and to inform future guidelines regarding occupational use of these solvents.

Health Disparities

P26. Health Literacy and Cultural Competency of FDA Consumer Materials

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Purpose: Healthcare decisions made by members of the public and health care practitioners, including when seeking information to guide decisions regarding medical treatments for conditions such as HIV/AIDS and Hepatitis C, are likely to benefit from epidemiologic evidence. However, the level of information available to the public may not match their health literacy and other needs. Health literacy is the ability to obtain/process/understand health information in order to make healthy decisions. In addition health literacy is considered a social determinant of health, with low health literacy associated with medication errors, low rates of treatment compliance, and higher mortality. This study evaluated how health information is relayed by examining health literacy and cultural competency of Food and Drug Administration (FDA) consumer materials on HIV/AIDS and Hepatitis B/C.

Methods: A grading rubric was devised according to best practices in assessing cultural competency, readability, and plain language aspects of written materials. 79 FDA consumer webpages (36 HIV/AIDS, 43 Hepatitis B/C) were identified and assessed. A systematic literature review was performed to determine consumer preferences when seeking online health information.

Results: For both HIV/AIDS and Hepatitis B/C, the majority of pages scored at the college or graduate reading level (>12). In all, webpages failed to use words and phrases familiar to the intended audience.

Conclusions: Epidemiology of population health and health care disparities are key components of cultural competency training for health professionals. Although many websites contain data and statistics, statistics presented are not representative of the intended audience and material is not useful.

P27. Factors Associated with HPV Vaccine Completion Among Hispanic Girls

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Purpose: Despite recommendations of three Human Papillomavirus (HPV) vaccine shots for all adolescent girls, only 35% achieve completion. Among initiators, rates of completion are lower for Hispanic. This study describes factors associated with completion of the HPV vaccine series among Hispanic and non-Hispanic White girls who initiated the series.

Methods: A secondary data analysis was performed of the cross-sectional 2012 National Immunization Survey - Teen for 4,710 girls (1,015 Hispanics, 3,695 non-Hispanic Whites) ages 13 to 17 that had at least one dose of the HPV vaccine. All analyses incorporated weights and took into account the clustered complex sample design. A logistic regression model was used to