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THE NIH TOOLBOX FOR ASSESSING NEUROLOGICAL AND BEHAVIORAL FUNCTION IN LONGITUDINAL EPIDEMIOLOGIC STUDIES. *K J Yost, R Gershon, C J Nowinski, D Cella, Havlik R, Korper S, and Wagster MV (Evanston Northwestern Healthcare, Evanston, IL 60201)

Many NIH-funded studies collect information on neurological and behavioral function. Unfortunately, there is little uniformity in the measures used, making comparisons or combining data across studies problematic. Also, such measures are rarely included in large cohort studies due in part to a lack of brief, well-validated instruments. To address these issues, NIH awarded a contract in 2006 to develop the NIH Toolbox. State-of-the-art psychometric research and novel testing methods will be employed to develop an innovative approach to neurological and behavioral function measurement in epidemiologic studies and prevention/intervention trials across the lifespan (3–85 yrs). The following criteria were recommended by 147 experts in a request for information: The Toolbox should take 2 hours to administer; be precise and accurate across the range of normal function, literacy, and diverse populations (e.g., English and Spanish); and easy to administer, score, and interpret with minimal cost. Existing measures of cognitive, sensory, motor, and emotional function were identified following a literature review and interviews with 45 experts. In all domains, development of new measures and addition of new items to existing measures to cover the range of function across the lifespan were warranted. Integration of statistical techniques with advanced technological approaches will be exploited to develop a measurement tool that is adaptable over time in response to advances in science and/or technology. The NIH intends this assessment tool to serve as a national resource for the scientific community.

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POTENTIAL NOSOCOMIAL TUBERCULOSIS EXPOSURE IN PUBLIC HOSPITALS IN CENTRAL THAILAND. *W Jiamjarasrangi (Faculty of Medicine, Chulalongkorn University, Bangkok 10330, Thailand)

The purpose of this study was to estimate potential nosocomial tuberculosis (TB) exposure of hospital personnel in central Thailand. Study samples were 42 community and general hospitals located in 42 districts of 5 provinces in central Thailand. Potential TB exposure rate in each hospital was calculated and present as number of case-days per year. Information utilized in the calculation included numbers of registered TB and human immunodeficiency virus (HIV) infected cases of each district in 2005, prevalence of TB among HIV infected cases and prevalence of HIV infection among TB cases, admission rates of TB and HIV infected cases, duration of delayed diagnosis of outpatient and in-patient TB cases. Results showed that total potential TB exposure rate [median (range)] of the study hospitals was 541.7 (80.3–4,126.0) case-days per year, and potential exposure rates at outpatient and inpatient departments were 207.5 (30.8–1,580.8) and 334.1 (49.5–2,545.1) case-days per year respectively. Three provinces with highest TB exposure risk had total potential TB exposure rates [median (range)] of 1,389.7 (761.7–4,126.0), 1,105.4(362.2–2,405.4), and 861.5(396–3263.9) case-days per year respectively. In conclusion, basing on the risk categorization of the U.S. Centers for Disease Control and Prevention, all study hospitals in central Thailand had moderate to high risk of nosocomial TB exposure. Stringent prevention and control measures are thus seriously needed.

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ADMINISTRATIVE AND ENGINEERING CONTROL MEASURE FOR NOSOCOMIAL TB IN PUBLIC HOSPITALS IN CENTRAL THAILAND. *W Jiamjarasrangi, S bualert (Faculty of Medicine, Chulalongkorn University, Bangkok 10330, Thailand)

The purpose of this study was to examine the administrative and engineering control measure for nosocomial tuberculosis (TB) in public hospitals in central Thailand. Study samples were 323 high and low nosocomial TB exposure risk departments/areas in 42 community and general hospitals in central Thailand. Data were collected during 2005–2006 by (a) structured interviewing the hospital administrators and/or departmental head; (b) walk-through survey, and; (c) ventilation measurement by the tracer gas method and reported as air change per hour (Ach). Results showed that only 11 and 3 out of 42 hospitals had well-structured TB identification and isolation measures respectively at the outpatient and emergency departments. Twenty four hospitals had separated service channel specifically for TB patients. Only 4 hospitals installed HEPA-Filter (High Efficiency-Particulate Air Filter) and/or UV lamp (Ultraviolet lamp) at the outpatient and emergency departments. Concerning indoor ventilation, while 65.0 percent (210/323) of the areas had ventilation exceed 2 Ach (the recommended minimum ventilation rate), only 46.4 percent (150/323) exceeded the recommended standard. Detailed analysis showed that ventilation in the air-conditioned areas was poorer than the naturally ventilated areas. The proportions of areas which had ventilation rate exceed the recommended minimum 2 Ach were 44.6 and 88.4 percents respectively for the both areas. In conclusion, enormous enhancement in administrative and engineering control measures is needed in order to adequately prevent nosocomial TB in public hospitals in central Thailand.

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RHEUMATOID ARTHRITIS IN AN ASBESTOS-EXPOSED OCCUPATIONAL COHORT. *P A Sullivan and G Cooper (National Institute for Occupational Safety and Health, Division of Respiratory Disease Studies, Morgantown, WV 26505)

This study evaluated non-respiratory effects in a cohort of asbestos-exposed vermiculite workers. We followed 1672 white male Libby, Montana, vermiculite miners, millers, and processing workers with amphibole fiber exposure. Using the NIOSH Life Table Analysis System, age-adjusted underlying cause arthritis mortality through 2001 was compared to white men in the U.S. population. Allowing for a 15-year lag, these workers were 9.5 times (95% CI 3.1–23.5) more likely than expected to die with a diagnosis of arthritis (n = 5). After death certificate review to identify any mention of rheumatoid arthritis (n = 12 deaths), multiple cause mortality was evaluated using the Cox proportional hazards model. After controlling for years since hire and pack years, using age at death as the time dimension, the relative hazard ratio (HR) for rheumatoid arthritis was 1.3 (95% CI 0.8–1.9) per 100,000 fibers/cc-years. For duration, the HR was 1.05 (95% CI 0.99–1.12), suggesting a 5% increase in risk of dying with rheumatoid arthritis for each year of employment. The HR for pack-years was 1.017 (95% CI 0.998–1.036). The association with smoking was expected given previous research on rheumatoid arthritis. These findings are consistent with a recently published report of excess rheumatoid arthritis morbidity among a subset of Libby vermiculite workers (Noonan et al., 2006). Taken together, that report and the findings reported here suggest that exposure to asbestos fibers may be associated with at least one systemic autoimmune disease. Disclaimer: This abstract does not necessarily reflect EPA policy.

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