Among 4,972 female employees aged 21 to 64 years, 74% had at least one Pap test within the past three years. Pap test utilisation was higher among employees aged 21 to 39 years (84%) compared to employees aged 40 to 49 years (76%) and 50 to 64 years (70%). Pap test utilisation was higher among employees with day work schedules (75%) compared to those with rotating work schedules (62%).

Conclusion More than one-half of female employees utilised recommended breast and cervical cancer screening tests; however, in the US population, the prevalence of screening mammography and Pap tests was 72% and 83%, respectively. Breast and cervical cancer screening for this insured employee cohort was slightly lower relative to the general US female population.

Session: V. Health care

166 THE CORRELATION BETWEEN WORKING CONDITIONS AND HEALTH STATUS OF NURSING PERSONNEL IN NURSING HOMES IN TAIWAN

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10.1136/oemed-2013-101717.166

Objectives To understand working conditions and potential occupational hazards among nursing personnel (registered nurses and nursing assistants) of nursing homes.

Methods A self-administered questionnaire was used to identify the hazards in nursing homes. Chinese Job Content Questionnaire, Chinese Copenhagen Burnout Inventory, and Chinese Nordic Musculoskeletal Questionnaire were used to measure the health status of nursing personnel. An expert focus group and two field visits to nursing home were performed to better understand the potential occupational hazards of nursing homes.

Results A total of 477 eligible questionnaires were completed and returned for final analysis. For biological hazards, needlestick injuries were associated with high job strain of registered nurses. In regard to psychosocial hazards, for registered nurses, low level of employment security was associated with high personal burnout. For nursing assistants, it was associated with high personal burnout, work burnout, and client burnout. Low level of workplace justice was the risk factor for high personal burnout, work burnout of nursing personnel. For ergonomic hazards, the prevalence of musculoskeletal discomforts was 94.8%. Standing ≥ 6 hours was highly associated with high job strain for registered nurses. Twisting waist ≥ 20 times during work was also related to musculoskeletal discomforts in the past year.

Conclusions This study has identified that the work environment of nursing homes would affect health status of nursing personnel in different aspects. To minimise those health effects on nursing home staff, improving the working environment practically and designing educational programs in preventing occupationally induced harms are warranted. A periodical evaluation system is also suggested, to better understand the psychosocial conditions of nursing home staff.

167 OCCUPATIONAL RISK ASSESSMENT AND RISK MANAGEMENT OF ANTINEOPLASTIC DRUGS IN ACUTE CARE SETTINGS

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10.1136/oemed-2013-101717.167

Background Antineoplastic drugs (ADs) that are carcinogenic, teratogenic and mutagenic are prescribed to manage cancer and immune diseases. Through patient care activities, many healthcare workers (HCWs) are routinely exposed to ADs.

These drugs are associated with secondary cancers along with established evidence on adverse occupational reproductive outcomes but due to lack of precise exposure assessment tools, evidence regarding occupational cancer risks following long term occupational exposures is limited and there is concern for additional risk due to interaction between multiple drug exposures.

Despite safe handling guidelines, recent evidence describes continued exposure to ADs among HCWs, in particular pharmacists and nurses, and also suggest a wider range of hospital occupations may be at risk.

Methods We conducted:

Systematic review of evidence for biological exposures to cyclophosphamide among HCWs and lifetime cancer risks assessments.

Observations and job shadowing of local oncology personnel performing associated tasks. The HCWs' interactions with each other and their environment were monitored for transmission of contamination.

Discussions with stakeholders evaluated the impact of policies, procedures and settings on HCWs' exposures.

Results HCW's AD urinary contamination levels have been decreasing over the years. Animal and human models were used to quantify the occupational lifetime risks for cancer. Results based on pharmacists and nurses suggest elevated lifetime risks for bladder cancer and leukaemia.

Observations suggest that despite precautionary actions, exposures cannot be controlled without considering the entire hospital AD network. Interviews of stakeholders confirmed the existence of gaps that enable contamination.

Conclusions The entire health care facility should be investigated to address gaps in the control of AD exposures through network analysis of contacts and probabilities for contamination for each AD related task; technological improvements are needed for safer preparation, delivery, administration and disposal of ADs; changes in policies are required to address the entire AD system, from 'cradle to grave'.

168 WORK ABILITY AND FATIGUE AMONG NURSING PERSONNEL WITH AND WITHOUT WORK RESTRICTION

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10.1136/oemed-2013-101717.168

Objective The inadequate conditions of nursing work have been associated with illness of workers and, consequently, decreasing the Work Ability Index (WAI) and higher levels of fatigue. Often it is observed that sickened workers continue working, performing their activities with restrictions by physical or mental health problems. Thus, we became interested in verifying the association between the work ability index and fatigue among workers who have restriction to perform daily activities or not.

Methods This is a cross-sectional epidemiological study, with 100 workers of population. It was conducted in medical and surgical units of a University Hospitalin Sao Paulo-Brazil. For data collection was applied the WAI and Chalder Fatigue Scale. Data analysis considered the Pearson correlation coefficient to associate WAI and fatigue, and analysis of variance and chi-square test to investigate association between work restriction, gender and working hours.

Results The analysis showed that there is a moderate and negative correlation between WAI and fatigue (r = - 0.49), showing an association between lower values of WAI and higher values of fatigue. The working week bigger than 36h showed association with the WAI (p = 0.009). Working days less than 36h reduce, on average, 4-point score of WAI. Women presented higher tendency for fatigue (55.7% vs 25.0% for men) or lower average to WAI (43.1% vs 45.8% for men). There was no significant difference for the WAI (p = 0.246) and fatigue (0.752) among workers with or without work restriction.
Conclusion There is a significant correlation between work ability and fatigue of nursing personnel, however it was noted that there is no significant differences of these indexes, considering both workers with or without work restriction.

169 OCCUPATIONAL FACTORS ASSOCIATED WITH LATENT TUBERCULOSIS INFECTION AND CONVERSION IN HEALTH CARE WORKERS IN A HIGH TUBERCULOSIS/HIV PREVALENCE SETTING

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10.1136/oemed-2013-101717.169

Objective South African health care workers are at growing risk of tuberculosis (TB). This study sought occupational risk factors for latent TB infection (LTBI).
Methods A sample of public sector facility staff in Cape Town completed a questionnaire and underwent 3 tests for LTBI: (1) tuberculin skin test (TST) (skin induration > 10 mm) (2) QuantiFERON-TB Gold In-Tube (QFT-GIT) and (3) TSPOT. TB test. These were repeated one year later and annual rate of test conversion calculated. Occupational factors associated with baseline LTBI and conversion were sought, adjusting for age and gender and stratified by primary care vs TB hospitals.
Results 505 staff participated from 7 facilities. LTBI prevalence was high: TST 84%; QFT-GIT 65%; and TSPOT. TB 60%. Predictors of positive TST in primary care were employment duration >20 years [OR = 4.17 (95% CI 1.12–15.62); hospital staff with training on self-protection from TB infection were less likely to test positive [OR = 0.38 (0.16–0.91)]. Predictors of a positive QFT-GIT test in primary care were involvement in sputum collection [OR = 3.25 (1.28–8.09)] and employment >20 years [OR = 2.42 (1.09−5.38)], while again there was a protective training effect in hospital staff [OR = 0.41 (0.22−0.77)]. Predictors of a positive TSPOT. TB in primary care were providing home-based care to TB patients [OR = 4.14 (1.60 − 10.70)], and, paradoxically, working at a facility which advocated cough etiquette [OR = 2.06 (1.04 − 4.10)] or provided surgical masks to coughing patients [OR = 3.65 (1.16 − 11.51). The conversion rates were: TST 38% (95% CI 24–55) and QFT-GIT and TSPOT. TB both 22% (15–30). There were no consistent occupational predictors of conversion.
Conclusion LTBI prevalence and conversion are very high in this population, suggesting occupational risk. Occupational factors included duration and intensity of exposure (primary care, sputum collection, home visits), suggesting targets for infection control. However, more research is needed on occupational risk.

170 ASSOCIATION BETWEEN EXPOSURE TO MRI-RELATED MAGNETIC STRAY FIELDS AND SYMPTOMS REPORTED BY WORKERS IN THE PUBLIC HEALTH AND RESEARCH SECTOR

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10.1136/oemed-2013-101717.170

Objectives This study aims to assess which acute symptoms are prevalent among health care and research staff working with MRI scanners, and whether these are related to their exposure to static magnetic stray fields.
Methods Fourteen health care and research MRI facilities were surveyed. Full-shift measurements of exposure to static and time-varying magnetic fields (SMF and TVMF) among staff were collected using personal dosimeters. Participants filled out one to two forms per shift, on which they reported their activities and symptoms they had experienced during (part of) their working day. Fourteen target symptoms were included which had been reported in literature in association with exposure to MRI-related SMF and TVMF . A subgroup of five 'core' symptoms was defined based on stronger (statistical) evidence for their association with SMF and TVMF exposure. Six additional unrelated symptoms were included to control for over-reporting of symptoms in general.
Results In total, 1,056 forms were completed by 334 participants. Nine out of 14 target symptoms were reported more frequently among staff exposed to SMFs, compared to unexposed staff. The proportion of forms on which at least one target symptom was reported increased with increasing scanner field strength. This trend was even stronger when focusing on the five 'core' symptoms. Strongest associations were seen for nausea, vertigo, metallic taste, and feeling of instability. No association was seen for the subgroup of unrelated symptoms.
Conclusions An increased number of symptoms was reported by staff working in the static magnetic stray field of an MRI-scanner. A clear trend of increased symptom reporting with increasing scanner field strength underlines the potential that a causal relation exists between exposure to MRI stray fields and specific symptoms.

171 HEALTH RISK WITH WORKING INFECTIOUS WASTE TRANSPORTATION FROM HOSPITAL BY PRIVATE TRANSPORT SECTOR OF THAILAND

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10.1136/oemed-2013-101717.171

This study aims to identify problems and the health risk with worker who work with the infectious waste transportation (IWT) from hospital by private transport sector (PTS) in Thailand. The instrument test content validity analysis (IOC = 0.79), reliability analysis (Cobarch's alpha = 0.82). The percentage, mean, standard division, and logistic regression were employed to describe the data. The results are as follow:

Total of 127 workers from 13 PTSs in Thailand 86.6% of workers were male, mean age of 31 years old, most of them were married (71.7%) and the mean of working were 5.03 years. The main work were collector of 57.5%, drivers of 26%, both driver and collector of 16.5%. The mean driving time of 8 hrs a day (min:max = 2:24 hrs). 61.1% of the driver have had