Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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including the transmission of HIV, Hepatitis B and Hepatitis C. Employer adherence to appropriate legislation is essential to safeguard healthcare workers and appropriately control risks. This audit aims to evaluate the compliance of current practice for these injuries with local policy in a large teaching hospital in the United Kingdom.

Materials and Methods: An audit sample was generated, including all blood-borne virus exposures and a random 20% sample of other injuries which occurred in 2019, using the Trust’s Occupational Health computer system. Inclusion and exclusion criteria were employed, and standards defined in line with Trust policy.

Results: An increase in all injury types was recorded compared with the last audit. Most injuries were caused by sharps (81%), particularly hollow-bore needles. Only one standard achieved 100% compliance (Hepatitis B exposure assessment) although compliance with standards for HIV and Hepatitis C exposures was also good. However, compliance with standards for Occupational Health follow-up, both after initial exposure, and long-term, fell significantly short. Identified areas for improvement were employee education, Occupational Health reporting measures, appropriate injury documentation and timely follow-up scheduling.

Conclusion: This audit demonstrated mixed compliance with standards, with recommendations made and implemented to improve this. Continued engagement with audit is essential to ensure compliance with policy, and safeguard healthcare workers.

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**Occupational Infections among Dental Health Care Workers in Germany – 14-Year Time Trends**

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Introduction: Dental health workers (DHW) are at increased risk of acquiring occupational infections. Due to various protective measures and a positive epidemiologic development in the general population, it might be assumed that infection risk for DHW have decreased. In order to proof the hypothesis, the time trend was analyzed.

Material and Methods: Secondary data from an accident insurance company were analyzed in terms of reported and recognized occupational diseases (OD) in DHW from 2006 to 2019. Claims concerning COVID-19 in DHW submitted until February 2021 were analyzed and full time equivalences (FTE) per 1,000 DHW compared with those for other HW.

Results: From 2006 to 2019, 271 claims were reported and 112 recognized as OD, representing an average of eight per year. The number of claims and confirmed ODs has decreased by 65.6% and 85.7%, respectively. The decrease was most evident for hepatitis B (HBV) and C (HCV) infections while the number of tuberculosis (TB) infections was stable. A total of 44 HCV, 33 HBV, 6 TB, and 24 latent TB infections were recognized as OD. Between March 2020 and February 2021, 155 COVID-19 claims were registered, and 47 cases were recognized as OD in DHW. The rate of ODs per 1,000 FTE was 0.4 in DHW, 28.9 in hospital HW and 10.5 in all HW.

Conclusions: The positive time trend assumed for the infection risk in DHW was confirmed until 2019. The pandemic than changed the picture completely. Instead of eight ODs per year, the number of ODs because of COVID-19 alone increased more than fivefold.

Therefore, continued attention should be paid to infectious disease prevention for DHW.

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**The relationship between job demands, job engagements, and burnout among healthcare workers during the COVID-19 pandemic**

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INTRODUCTION: The Covid-19 pandemic has placed unprecedented psychosocial pressure on healthcare workers. Despite this, this study has assessed the relationship between job demands, job engagements, and burnout among healthcare workers and compared findings between countries.

METHODS: This cross-sectional self-reported online survey among 1266 HCWs (78% females, aged 42.9 ± 10.8 years) from RN Macedonia, Croatia, and Bosnia and Herzegovina during 2020 was carried out. The following study questionnaires: MBI, the Hospital Experience Scale, the Hospital Survey on Patient Safety Culture, and QRCP the Questionnaire Sur Les Ressources et Contraintes Professionnelles were used. All examiners per job contacts divide into three groups: those who had no COVID-19 positive contact, self-isolated patients, and only positive COVID-19 patients.

RESULTS: Comparison findings indicated a high level of burnout in each country without significant differences (the mean of EE in Croatia was 23.70, in RN Macedonia 24.08, and B&H 21.88; and mean of DP in Croatia 6.75: in RN Macedonia 6.28: in B&H 5.98, P < 0.000), and insufficient number of HCWs, too. In an inversion, they were HCWS with the lowest level of dedication to work tasks than others. There was a significant correlation between job dissatisfaction and: EE (0.534, P < 0.000), DP (0.535, P < 0.000), and night working shift (0.299, P < 0.000).

CONCLUSION: It is necessary to provide a sufficient number of HCWS, reduce night working and psycho- support, and strengthen job satisfaction among HCWS who have only contact with COVID 19 patients.

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**High Risk Bubble, Bubble and Seal program can help continue business of hospital in Fourth wave or COVID-19 pandemic in Thailand**

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Introduction: With the fourth wave of COVID-19 pandemic in Thailand, COVID-19 and their variants transmitted in the family and community. This is difficult to screen and highly contagious, they dodged the detection system and disseminated in various inpatient
wards so that many patient and healthcare workers became the high-risk-exposers. Many HCWs were quarantined so that there was shortage of personals. We redesigned the previous prevention program and adapted the new type of quarantine system so that they can still work without risk to the others.

Material and Method: We invent the bubble and seal system for HCWs. If the COVID-19 patient dodged to admit in ward and detected later. We did the COVID test for all the high-risk-exposers and quarantine them. We seal the ward with no new patient admit and we arrange the room for those who needed quarantine near the sealed ward so that they can work, they were in the high-risk bubble. For those who went home they must go straight to their home and not stop anywhere and vice versa to hospital.

Result and Conclusion: In the 4th wave of pandemic. Our team did exposure investigation 5,019 times and got high risk exposure 886 persons (17.7%). There were 401 high-risk exposed HCWs (45.3%) who worked in high-risk bubble instead of staying home. Those high risk exposed cluster were support workers 35.1%, nurses and doctor clusters were 29.3% and 27.2%. There was no transmission among those who worked in high-risk bubble. The bubble and seal system can arrange the safe work and decrease the transmission of the virus and continue the business of the hospital.

A case study on the lumbar muscle loads and physical activity intensity in a care worker during the day shift

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Introduction: The purpose is to clarify the lumbar muscle loads (LMLs) and physical activity intensity (PAI) in a care worker during the day shift.

Material and Methods: The subject was a 20s woman care worker working at a nursing-care facility. The surface electromyograms (sEMG) from bilateral paraspinal muscles at L3-4 and the PAI were measured, and motion-time study was conducted during the day shift. The prolonged LMLs including higher potential frequently and physical activity with non-negligible intensity were found out in this case study.

SARS-CoV-2 health facility assessment following the quality assurance system to protect health workers in Thailand

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Introduction: Health workers (HWs) are among the highest groups at risk of infection during the SARS-CoV-2 (COVID-19) pandemic. This study aimed to evaluate the performance of health facilities following the quality assurance system.

Material and Methods: This action research was divided into 3 phases including 1) assessment tool development 2) audit system establishment and 3) implementation and evaluation. The COVID-19 control measure tool was developed using expert opinions. Such tool was tried out and tested the reliable among 30 hospitals. The overall Cronbach was 0.78. The staffs of the Regional Office of Disease Prevention and Control have been trained to audit the hospitals using the tool. The performances of the hospitals have been classified into 3 levels including silver, gold and diamond. Data were analyzed using frequency and percentage.

Results and Conclusions: Such tool was divided into four aspects including 1) organizational management, 2) surveillance programme implementation 3) health assessment and the welfare support 4) COVID-19 training and guideline and 5) environmental and personal protective equipment management. Total 154 hospitals participated in this study. Hospitals have achieved diamond level, gold level, silver level and failure to meet the criteria for 69 (44.8%), 49 (31.8%), 29 (18.8%) and 7 (4.5%), respectively. The occupational health strategies should address on work tasks assessment, COVID-19 investigation, fitness for work assessment and ventilation improvement to prevent and control COVID-19 among HWs more effectively.

Vaccine hesitancy and reasons for or against adherence among nursing students: comparison between flu and covid-19 vaccines

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Introduction: Healthcare workers are a target category for many vaccinations since they have an increased risk to contract and transmit communicable diseases to patients. The aim was to evaluate intentions to be vaccinated against flu and COVID-19 in a population of nursing students and to compare the reasons for or against adherence to these vaccinations.

Material and Methods: An anonymous online survey was conducted among 422 nursing students to collect data on demographic characteristics, vaccine attitudes, and specific reasons for intentions to be vaccinated or not for flu and COVID-19.