

Immigrant workers play a significant role in the U.S. construction industry. This report summarises our recent findings about disparities in demographics, employment characteristics, health and healthcare, and disproportionate risk of work-related injuries among these vulnerable workers. The statistics are obtained from several large national datasets in the U.S., including the Current Population Survey, American Community Survey, National Health Interview Survey, Medical Expenditure Panel Survey, the Census of Fatal Occupational Injuries, and the Survey of Occupational Injuries and Illnesses. Data from the Mexican Migration Project, an ongoing study of Mexican migration to the U.S., are also included. SAS 9.4 is employed for the data analysis.

The foreign-born population in the U.S. grew rapidly through mid-2000s, but slowed down since the Great Recession. Only 5% of current foreign-born construction workers arrived during the period of 2011 and 2013, whereas 10% entered between 2005 and 2007. In 2015, about 2.4 million construction workers, or nearly a quarter of the industry workforce, were foreign-born; of which 84% were born in Latin American countries. It is estimated that nearly 75% of workers migrating from Mexico to the U.S. were undocumented or had false documentation on their first trip.

In general, immigrant construction workers are younger, less educated, and disproportionately work in high-risk occupations. These workers also lag behind other workers in income, health insurance coverage, and health services.

Work-related death rates for immigrant construction workers are consistently higher than other workers. However, this trend is not found in nonfatal injuries. Underreporting in nonfatal injuries is suggested. There are sizable disparities between immigrant construction workers and their native-born counterparts in the U.S. Given the rapid changes in the economy and the dangers associated with construction work, enhanced safety and health surveillance and intervention for immigrant construction workers is urgently needed.

#### 1703b TB IN THE WORKPLACE AND BEYOND: CONTRIBUTION OF OCCUPATIONAL HEALTH SERVICES TO TB ELIMINATION IN THE ERA OF MOBILE WORKFORCE

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The challenges posed by TB have changed, especially with the threat of drug-resistant TB. Also, the growing mobility of people including workers is a main factor for disseminating TB faster and farther, thus rendering its control even more difficult. While the main objective of occupational health services is to control the risk of TB contamination on the workplace, it should be also to reach out the local communities and thus leveraging the impact of the DOTS activities outside the workplace.

In high TB prevalence countries (HTBPC), TB is a hazard on the workplace, and should be integrated in HIRAC procedures, for having in place the necessary control measures. Cross-sectoral approach involving Ministries of Health and Labour contributes to achieve this objective, following the collaboration that ILO and WHO have already implemented. In

HTBPC, there is an urgent need to put in place measures on the workplace to scale up early diagnosis, adequate treatment, and better individual risk assessment based on personal history of mobility. Better coordination at intra-national, regional, and global levels is required to properly managed mobile workers infected with TB, whether it is latent TB infection or active TB. Occupational Health Services have an important role to play to move this forward.

In low prevalence TB countries, there is an operational program towards TB elimination, where occupational health services have a role to play. In addition to social determinants, mobility plays an important role in these countries, and the wider availability of tests combined with powerful data management and utilisation of e-Health allows to fast track an outbreak and take the adequate control measures. Illegal foreign workers – usually migrants from HTBC – suffer lack of access to TB diagnosis and treatment, and may expose their families, local communities and coworkers in the workplace.

#### 1703c EMERGING INFECTIONS AND THE HEALTH RISKS OF MIGRANT WORKERS

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Global movement of individuals, populations, and products is one of the major factors associated with the emergence and re-emergence of infectious diseases as the pace of global travel and commerce increases rapidly. Travel can be associated with disease emergence because (1) the disease arises in an area of heavy tourism, (2) tourists may be at heightened risk because of their activities, or (3) because they can act as vectors to transport the agent to new areas. Tourists may not stay in the country of destination for a significant period of time, however, workers spend considerable duration of stay due to over-seas job contracts.

Migration across health and disease disparities influences the epidemiology of certain diseases globally and in nations receiving migrants. While specific disease-based outcomes may vary between migrant group and location, general epidemiological principles may be applied to any situation where numbers of individuals move between differences in disease prevalence.

Hence, there is a continued interrelationship between disease, travel and migration due to this global economic development affecting the workers who will be hired in the country of destination. The CDC defines 'emerging infectious diseases' as those infections that are increasing over time or threaten to increase. It also defines emerging infectious diseases as new infections resulting from new unknown pathogens, known infections which are increasing over new geographic areas, and known infections that are re-emerging as a result of both resistance to antimicrobial therapies and the failure of public health measures.

This paper discusses these infections related to travel of migrant workers as well as the health risks that they encounter. Current challenges exist in the prevention of transmission to other geographical areas of travel.

**1603 TO PROVIDE AN OVERVIEW OF THE WORKING GROUP ON OCCUPATIONAL INFECTIOUS AGENTS' RESEARCH AND AN OPPORTUNITY TO INITIATE GUIDANCE PRODUCTS**

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**1603a COSTING OCCUPATIONAL INFECTIONS: LESSONS FROM HEPATITIS C IN HEALTH WORKERS IN GERMANY**

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**Introduction** Healthcare personnel (HCP) have a risk of hepatitis C infection (HCI). Chronic HCI is associated with significant morbidity and mortality. The aim of this study is to describe the cost for occupationally-caused HCI based on data from an accident insurance carrier.

**Methods** The secondary data analysis used the database of the German Institution for Statutory Accident Insurance and Prevention in the Health and Welfare Services. The analysis is based on a sample of HCP whose HCI were registered as occupational diseases (OD) between 1996 and 2013. Incurred cost was calculated for the period between 1 January 2000 and 31 December 2014.

**Result** The number of registered ODs declined by 86% within the study period. A total of 1.121 ODs were registered. The majority was female, older than 40 years and medical nursing professionals. In the study period, the cost came to a total of € 87.9 million, of which 60% was attributable to pension payments (€ 51,570,830) and around 15% was attributable to medical treatment (€ 12,978,318). Expenses for drugs increased in 2012 (from around € 500,000–8 00 000 to € 1.7 million) and 2014 (to € 2.5 million). Pension payments came to € 1.6 million in 2000 and rose continuously to over € 4 million in 2014. Expenses for occupational rehabilitation accounted for less than 1%.

**Discussion** For HCI as an OD, an increase in cost has been observed in recent years, while the number of registered cases has declined. This rise in cost is explained by the increase in pension payments and, since 2012, by a rise in the cost for drugs. In future the high cost of anti-viral therapies is potentially compensated by treatment benefits and savings for pension payments.

**1603b TRAVEL AND THE SPREAD OF INFECTIOUS DISEASES**

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**Introduction** Over three billion passengers fly internationally each year, including executives, professionals and workers employed in many industries. Government and non-government organisations such as the US Centres for Disease Control (CDC), the International Civil Aviation Organisation (ICAO) and its Collaborative Arrangement for the Prevention and Management of Public Health Events in Civil Aviation (CAPSCA), and the World Health Organisation (WHO), working individually and together, have recommended interventions to prevent the occurrence of infectious disease outbreaks resulting from travel, particularly air travel.

**Methods** Measures recommended to prevent the spread of infectious diseases associated with travel were reviewed, and preventive interventions recommended for individual infectious diseases were assessed with respect to their effectiveness.

**Result** Public travel information and monitoring of exposed travellers are the most cost effective measures for preventing the spread of travel-related infectious diseases. Handwashing and the use of face masks may reduce transmission to others, but have limited value as protective measures for individual travellers. Entry and exit screening are commonly used and have some effectiveness, particularly with respect to alerting the public of specific infectious disease risks, but are expensive, and will miss cases in the incubation period when there are no symptoms or fever. Contact tracing may be of benefit particularly with respect to monitoring of exposed passengers, but can also be expensive, passenger manifests may be incomplete, and exposed passengers may be difficult to locate several days after arrival at their destination. Control of animals and fomites (baggage, cargo, etc.) has limited value. Travel restriction is of limited effectiveness and politically controversial. Quarantine is costly, and compliance difficult to enforce.

**Discussion** Preventive measures are used to prevent or delay the spread of infectious diseases resulting from travel, but are of variable effectiveness. Public travel information and monitoring of exposed travellers are the most effective control measures.

**1603c IMMUNISATION POLICIES AND PRACTICES IN OCCUPATIONAL HEALTH: EVIDENCE AND OPTIONS FROM THE LITERATURE AND THE FIELD**

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**Introduction** Exposure to biological agents occurs in many workplaces. Immunisation is a safe, cost-effective intervention for Vaccine Preventable Diseases (VPD). Although updated, evidence-based vaccination policies are available for the general population, overall there are few consensus recommendations for working populations apart from health care workers (HCWs).

**Methods** To evaluate current trends and evidence-based options, we performed a literature review of main online databases from 1997 to 2017, websites of various public