Work-related injuries among immigrants: a growing global health disparity

Marc Schenker

Occup. Environ. Med. 2008;65;717-718
doi:10.1136/oem.2008.040907

Work-related injuries among immigrants: a growing global health disparity

Marc Schenker

Increased occupational hazards among immigrant workers were described 100 years ago in Upton Sinclair's novel *The Jungle*, which exposed the scandalous living and working conditions of immigrants in the Chicago stockyards. At the same time Dr Alice Hamilton was establishing the field of occupational health in the USA by her studies of immigrant workers exposed to the hazards of lead, rubber, viscous rayon and other toxins.[1] Unfortunately, increased occupational hazards to immigrant workers remain a reality today; it is just the origin of the workers and some of the jobs that have changed. The dramatic increase in global migration over the past decade has made this issue even more critical, but the debate on immigration has become mired in politics, and little has been done to understand the situation or decrease the inequitable burden of morbidity and mortality among immigrant workers.

How big is global migration? In 2005 there were an estimated 191 million global migrants, up from 155 million in 1990. It is estimated that 200 million people around the world live outside their country of origin. Dramatic increases in migration have occurred in the USA. The foreign-born population in the USA reached 37.9 million in 2007, comprising over 12.5% of the population and 16% of the adult workforce. In 1970 immigrants made up less than 5% of the US population. There were over 1.1 million legal immigrants in 2005, and an estimated 11 million undocumented foreigners were living in the USA in that year. The number of undocumented foreigners has been increasing by over 500 000/year. In Spain the number of foreigners living in the country is close to five million, an increase of 10-fold over the past decade.[2]

The origin and characteristics of immigrants vary with the specific country. For example, Mexico is the dominant country of origin for immigration to the USA, being the source of approximately 30% of US immigrants, with an additional 20% coming from other Latin American countries.[3] Conversely, the three largest countries of origin for immigrants to Spain are Morocco, Rumania and Ecuador. While traditional immigration patterns exist (eg, Brazilians to Portugal), immigration is increasingly diverse with large increases from many Asian countries. A commonality among immigrants in most receiving countries is that they are young, poor, have low educational levels and lack health insurance.

There are currently 142 young workers for each 100 retirees in developed countries, and that number is expected to drop to 87 entrants for each 100 retirees by 2016. The simple maths is that only immigrants can make up this gap, and the fact that developing countries have 342 candidates for every 100 jobs means that the pressure to immigrate will continue. From 1996 to 2006 net employment in the USA increased by 17.6 million, and half of this increase was by foreign-born workers, despite the fact they represent only 16% of the total adult workforce. The estimated $300 billion dollars in remittances sent around the world annually, three times the combined global foreign aid budgets, adds additional driving force to global migration.

Unfortunately the movement of people is not as efficient or safe as the movement of money, which can now be sent instantly by cell phone. Migrants face the hazard of injury and death during the dangerous migration passage, and there is increasing evidence that they have higher occupational morbidity and mortality in their adopted homes than non-immigrants working in the same jobs. Legal and social discrimination against immigrants compounds the injustice.

What is the evidence for increased workplace injury and disease among immigrant workers? Unfortunately, despite the large and growing size of this population, there have been few studies on this question. A recent review of PUBMED articles in English or Spanish found only 48 references addressing immigration, occupation and health from 1990 to 2005,[4] confirming the paltry professional attention to this issue. Nevertheless, existing data from government sources and the limited research is instructive as to the increased workplace toll, and some of the underlying causes. The Census of Fatal Occupational Injuries in the USA has recorded a 25% decline in the rate of fatal work injuries over the past 15 years, but the number and rate of fatal injuries among Hispanics has increased over this time period. Further, all of the increase has occurred among foreign-born Hispanics.[5]

Non-fatal occupational injuries and illnesses are also higher among immigrant workers. Hispanics comprise 10.2% of the US workforce, but account for 17.1% of occupational injuries and illnesses.[6] Injured immigrant workers in the USA have greater disability from occupational injuries than do non-immigrant workers. Consideration of the jobs taken by immigrant workers makes immediately clear one reason for their higher occupational health burden. The four occupations employing the greatest percentage of Hispanic workers in the USA are agriculture, construction, transportation and housekeeping, and the first three of these consistently show the highest rates of occupational fatalities. Housekeeping, an occupation increasingly dominated in the USA by immigrant Hispanic women, does not rank as a major cause of fatalities, but recent research has documented increased occupational illness risks in this occupation.[7]

It is likely that existing data are only the "tip of the iceberg" for many occupational health outcomes. Most data sources do not record immigrant status, and if solicited it is often incorrectly reported. In addition, many immigrants work in informal work arrangements or for labour intermediaries, move between jobs, don't speak the dominant language and are otherwise difficult to study with standard epidemiological tools. Ironically, studies often exclude immigrants for exactly these reasons. Despite these limitations, studies of day labourers have found injury rates 1.5 to 2 times the rate for non-immigrants in the USA and worker's compensation is generally available for half or less of injured immigrant workers. Numerous studies have documented increased fatal and non-fatal injury rates among agricultural workers, an occupation in the USA now dominated by

Correspondence to: Marc Schenker, Department of Public Health Sciences, MS1-C, One Shields Avenue, University of California at Davis, Davis, CA 95616, USA; mbschenker@ucdavis.edu

Hispanic immigrants.[8] A study of occupational fatalities among construction workers found rates among Hispanic workers 1.4 to 1.8 times the rate in non-Hispanics.[9]

It is less clear what specific risk factors contribute to this increased morbidity and mortality. There are conflicting data on whether speaking English, job tenure or safety training is associated with an increased risk among immigrant workers in the USA. One consistent finding is that precarious job status, often associated with undocumented immigration status, is associated with worse health outcomes.[4] Serious mental health problems have also been associated with the loneliness and stress of the immigrant condition.

In view of the enormous occupational health burden of immigrant workers, it is welcome to see the recent research from the Institute for Work and Health in Canada (this issue). These investigators recognise the central role of immigrants in Canada's future, and use the Canadian Community Health Survey to examine injury rates among immigrants and Canadian-born residents. Among men, recent immigrants had higher rates of work-related injuries requiring medical attention. Interestingly, half of the recent immigrants had a Bachelor's degree or higher and non-manual work was the most common occupational classification, suggesting that immigration to Canada reflects a very different demographic mixture than does immigration to the USA or to most developed countries.

It is time for occupational and public health professionals to seriously address the issue of workplace illness and injury among immigrants. Too many epidemiological studies have excluded immigrant subjects for various methodological, economic or political reasons, for example, the immigrants were not part of a census or other sampling frames, they didn't speak the dominant language or they were too transient. Alternatively, investigators simply didn't consider immigration status relevant to aetiological questions of disease causation. This situation is akin to the futile effort of looking for one's keys under the lamppost because the light is better there, regardless of where you lost them.

Immigration is an enormous global phenomenon that will increase in magnitude. There is ample evidence that immigrants suffer higher rates of fatal and non-fatal occupational injuries and illnesses. Doing this research will require new study paradigms and approaches, including working with experts from multiple disciplines familiar with immigrant communities. It is time to recognise that the workforce is changing rapidly and dramatically, and the profession needs to adapt our science and our ethics. To do so will also fulfil our obligations under the 2003 UN International Convention on the Protection of the Rights of all Migrant Workers and Members of their Families.

Acknowledgements: This work was supported in part by NIOSH Cooperative Agreement # 2U500H007550

Competing interests: None.

Accepted 15 May 2008

Occup Environ Med 2008;**65**:717–718.
doi:10.1136/oem.2008.040907

REFERENCES

1. **Hamilton, A**. *Exploring the dangerous trades; the autobiography of Alice Hamilton, M.D*. Boston: Little, Brown and Company, 1943.
2. **Eurostat**. *Migration statistics*. September 2004. http://europa.eu.int/estatref/info/sdds/en/migr/migr_base.htm, accessed 29 April 2008.
3. **Schmidley D.** *U.S. Census Bureau, Current Population Reports, Series P23–206, Profile of the Foreign-Born Population in the United States, 2000*. Washington DC: U.S. Government Printing Office, 2001.
4. **Ahonen EQ,** Benavides FG, Benach J. Immigrant populations, work and health--a systematic literature review. *Scand J Work Environ Health* 2007;**33**(2):96–104.
5. Census of Fatal Occupational Injuries. 2006, Bureau of Labor Statistics: Washington, D.C. http://www.bls.gov/news.release/cfoi.toc.htm, accessed 30 April 2008.
6. CDC NIOSH Worker Health Chartbook 2004. 2004, National Institute for Occupational Safety and Health: Cincinnati, OH. NIOSH No. 2004-146. http://www.cdc.gov/niosh/docs/chartbook/, accessed 30 April 2008.
7. **Zock JP,** *et al*. The use of household cleaning sprays and adult asthma: an international longitudinal study. *Am J Respir Crit Care Med* 2007;**176**(8):735–41.
8. **Villarejo D.** The health of U.S. hired farm workers. *Annu Rev Public Health* 2003;**24**:175–93.
9. **Dong X,** Platner JW. Occupational fatalities of Hispanic construction workers from 1992 to 2000. *Am J Ind Med* 2004;**45**(1):45–54.