20

Occupational Health Research with Immigrant Workers

Michael A. Flynn
Donald E. Eggerth

INTRODUCTION

Work is the principal driver of current international immigration. Over half of the 214 million international immigrants are labor migrants actively participating in the workforce; their families account for an additional 40% of the global immigrant population (ILO 2009). The globalization of the world economy is characterized by increased flows of labor across international borders and has contributed to an increasingly complex pattern of international migration as well. While traditional immigration patterns persist (e.g., Mexicans migrating to the United States), new ones have also emerged in the past thirty years (e.g., immigrants now represent 92% of the workforce in Qatar) (IMI 2006; ILO 2009). Despite the increasing complexity of labor migrations or differences in destinations, one thing remains constant—the vast majority of immigrants are employed in what have come to be known as "3-D"—dirty, demanding, and dangerous—jobs (Connell 1993). Despite the centrality of work to the lives of immigrants and the often difficult and dangerous jobs they perform, little attention has been paid by researchers to the occupational health of immigrants. Ahonen et al. (2007) reported that a search of the literature on occupational health and migration yielded only forty-eight articles in English or Spanish from 1990 to 2005. This chapter discusses central themes and methodological considerations for doing occupational health research with immigrant populations. While the chapter is written from the perspective of current research with Latino immigrants in the United States, the themes are applicable worldwide.

Immigration from Latin America to the United States has experienced tremendous growth over the past twenty years, and there are about 19 million Latino

immigrants living in the United States today (Pew 2011). This growth has been accompanied by geographic expansion into nontraditional settlement areas such as the Midwest and Southeast regions of the United States as immigration patterns have responded to job opportunities in the service, construction, and meat processing industries in these areas of the country (Pew 2005; Striffler 2007). This rapid and unanticipated growth in areas without bilingual infrastructure or a history of a Latino community presents unique challenges and opportunities for immigrants, employers, and the communities at large (Pew 2005). Although most immigrants from Latin America are authorized to be in the United States, increasing numbers of recent Latino immigrants are here without legal status. For example, the Pew Hispanic Center estimated that roughly 80% of Mexican immigrants coming to the United States in the last decade were undocumented (Passel and Cohn 2009).

The recent increase of Latino immigration has been accompanied by growing occupational health disparities for Latino immigrant workers. Latino immigrants to the US have a workplace fatality rate of 5.9 per 100,000 person-years, which is almost half again as much as the rate for all workers (4.0) and even greater when compared to Latinos born in the United States (3.5) (CDC 2008). Richardson, Ruser, and Suarez (2003) report that as a group, Latinos have higher rates of nonfatal occupational illness and injury than non-Latinos. Unfortunately, the data reported in this study did not distinguish between immigrant and native-born Latinos. However, the fatality rates mentioned above suggest that immigrants may be the driving force behind these elevated rates of injuries and illnesses. These rates are not only an affront to core values of our society such as equal opportunity and equal protection, but they are of significant concern on a practical level as well. As the US population ages, immigrants, particularly Latinos, will make up an increasing percentage of the workforce. The Pew Hispanic Center (2008) estimates that immigrants will make up roughly 23% of adults of working age in 2050, up from 15% in 2005. Occupational injury and illness currently represent one of the highest health-related economic burdens in the United States. The combined direct and indirect cost of occupational injury and illness in the United States in 2007 was $250 billion, up from an inflation-adjusted $217 billion in 1992 (Leigh 2011). If occupational safety and health (OSH) disparities are not reduced or eliminated for Latino immigrant workers, these costs to society will increase as Latino immigrant participation in the workforce grows over time.

Latino immigrants make up roughly 7% of the workforce in the United States and are concentrated in four industry sectors: services 43%, warehousing 16%, construction 16%, and manufacturing 13% (Pew 2009). Despite this, the majority of the limited research related to Latino immigrants has focused on the agricultural sector, which represents about 5% of the Latino immigrant workforce. Over the past ten years the construction sector has been increasingly represented in the

literature and to a lesser degree meat and poultry processing plants (Smith-Nonini 2003; Stuesse 2009; Quandt et al. 2006; Dong and Platner 2004; Loh and Richardson 2004). While research in these industry sectors should continue, it is imperative that additional research be conducted to ensure that the industries employing the majority of Latino immigrants are represented.

RESEARCH AREAS

Eliminating occupational health disparities for immigrant populations requires improved knowledge in three key areas. First, further surveillance needs to be conducted to give a more accurate picture of what is going on with OSH among immigrants (i.e., who is getting hurt, how it is occurring, and what is being done in response to the injuries). Second, there is a need to better understand those aspects of the immigrant experience that lead to increased occupational morbidity and mortality compared to other workers. Finally, research is needed to find effective ways to prevent occupational injuries and illnesses among immigrants and to eliminate these disparities.

Surveillance

Data for identifying and tracking occupational health disparities can come from a variety of sources, such as primary surveillance programs, secondary sources, convenience sampling, and targeted smaller studies.

Primary Surveillance. Primary surveillance entails efforts whose specific purpose is to collect data related to occupational safety and health. The US Department of Labor's Census of Fatal Occupational Injuries (CFOI) and the Survey of Occupational Injuries and Illness (SOII) are the principal occupational health surveillance systems in the US on a national level. The CFOI is an example of active surveillance because it searches out data from over twenty-five types of sources, whereas the SOII is considered a passive surveillance system because it relies primarily on reviewing employer records of injuries (Souza et al. 2011). While these systems are the most comprehensive data that exist, they are not perfect tools. The CFOI collects a significant amount of demographic data, including country of birth; however, it does not include variables such as immigration status of the victim or duration of time living in the US. It would be helpful to include that information in the future because immigration status has long been hypothesized as contributing to OSH disparities for immigrants (Schenker 2010). Conversely, employer records used by SOII are often missing basic demographic data such as race/ethnicity. Additionally, the SOII data is acknowledged to be incomplete because employees, especially vulnerable ones like immigrant workers, likely do not report every injury to their employers for fear of reprisals, and employers

likely do not record every injury so they can avoid negative consequences such as Occupational Safety and Health Administration (OSHA) fines or increased workers' compensation premiums (Azaroff et al. 2002; Ruser 2008; Souza et al. 2010).

Another form of primary surveillance involves inclusion of occupational health items in larger population-based surveys. An example of this would be inclusion of occupational health items in the US Department of Labor's National Agricultural Workers Survey (NAWS), which is administered annually to between 1,500 and 4,000 crop workers (Steege et al. 2009). NAWS generates important information on the occupational health of farmworkers in part because of the considerable effort to ensure that the data collection instruments and methods address the unique characteristics of this workforce. However, even these extensive efforts cannot guarantee a truly representative sample, which ultimately threatens generalizability (Souza et al. 2010). Another limitation to including OSH items in population-based surveys such as NAWS is the restriction it puts on the number of items that can be included in the instrument, thereby reducing the amount of data that can be collected on any one topic. Despite these limitations, efforts such as NAWS generate substantial data and are essential tools for understanding the occupational health of immigrant workers.

Chronic occupational illnesses are perhaps the hardest to track given the current surveillance systems. In part, this is because of the lag time separating occupational exposure to toxins and the emergence of the attendant illness. In some cases, this period is so long that neither worker nor health care provider thinks to make a connection. Consequently, the OSH community is advocating for occupational data fields to be included in electronic medical records, which could potentially provide a wealth of data on occupational illness as well as injuries (Filios et al. 2008).

Secondary Surveillance. Secondary surveillance efforts involve mining datasets that did not initially target occupational health. Souza et al. (2010) point to several studies (Fleming et al. 2003; Caban-Martinez et al. 2007) using data from the National Health Interview Survey (NHIS) that have been employed to document occupational health disparities. Secondary data can be particularly useful in studying immigrant populations because national health studies may target or oversample groups, such as immigrants and ethnic minorities, which are often underrepresented in current occupational health surveillance (Souza et al. 2010). However, Schenker (2010) cautions that national population-based surveys such as the Hispanic Health and Nutrition Examination Survey often run into sampling errors due to issues such as language, residential stability, and a tendency to focus on urban populations.

Convenience Sampling. Due to barriers of language, culture, and immigration status, Latino immigrant workers are often very difficult to recruit as research par-

ticipants. Consequently, many studies, both quantitative and qualitative, rely upon convenience samples. Although convenience samples have the advantage of making recruitment easier, there are almost always questions regarding the representativeness of the sample and consequently the extent to which the study results are generalizable to the population of interest. The most common recruitment strategies typically fall into one of two categories. One strategy is to recruit from naturally occurring gatherings of immigrants, such as workplaces, church services, or community festivals. The other strategy is to work with organizations that already have the trust of the immigrant community and that are willing to endorse study participation to their constituents.

When a group is poorly represented in the literature, it is clear that nearly any systematically collected information is better than no information at all. However, when interpreting study results, one must always bear in mind the limitations to generalization of findings. For example, the Health Foundation of Greater Cincinnati (2006) recruited a sample of over five hundred Latinos at a large community festival sponsored by a church-affiliated community service organization. The participants were surveyed on a wide variety of health-related topics via items from standardized questionnaires. Nearly all of the items were also used in the foundation's health survey of the Greater Cincinnati area, which used a sophisticated sampling technique to ensure that the participants were representative of the area's population. This approach provided a rare opportunity to contrast Latino immigrant responses to those of the host community. However, because convenience sampling was used for the Latino sample, it is difficult to draw clear conclusions as there is no way of knowing if the sample is representative of the population.

Recruiting from workplaces not only involves difficulties related to representativeness of the participants, but also poses issues related to the validity of the responses. Many Latino immigrants report that they feel very vulnerable to job loss and/or retaliation from employers (Walter et al. 2002; O'Connor et al. 2000; CPWR 2004). Consequently, many are reluctant to respond in a manner they fear might somehow anger their employers. O'Connor, Gildner, and Easter (2000) report that many Latino immigrants believe that the basis of their attractiveness to American employers is that Latinos "work hard" and "don't complain"—breaking this stereotype risks reducing their employability.

Partnering with organizations that are trusted by the immigrant community can sometimes help to broaden the subject pool for an investigation. However, representativeness remains an issue. For example, working with a labor union that is trusted by its immigrant members can help increase access, but Latino immigrants might be underrepresented as they are far less likely to be union members (Dong and Platner 2004). Working with community service agencies or advocacy groups has its own set of constraints. These organizations are often staffed by members of the community they serve. Consequently, fearing breaches of

confidentiality, participants may be hesitant to respond truthfully when surveyed regarding sensitive topics. In addition, these organizations frequently initiate recruiting with the community members who are most involved with its activities. Expansion beyond this initial pool typically utilizes the "snowball" sampling method, wherein participants are asked to recommend others who might be interested in participating (Goodman 1961). These recommendations are frequently family members, friends, or neighbors. Again, representativeness of the sample becomes an issue. Response-driven sampling is a nuanced version of snowball sampling that attempts to reduce its inherent biases while maintaining its usefulness in reaching "hidden" populations such as undocumented immigrant workers (Heckathorn 1997).

Targeted Smaller Studies. The move to a more temporary and mobile workforce, underrepresentation of immigrants in traditional sampling techniques, and the lack of data fields specific to immigrant workers (i.e., primary language, time in the United States, immigration status, etc.) often reduce the effectiveness of traditional occupational epidemiology methods in documenting the health status of immigrant workers. This has led researchers to utilize more targeted and tailored efforts, often referred to as "shoe-leather" epidemiology, to further understand the occupational health of immigrants. In an attempt to better understand the occupational health of immigrant workers, Gany et al. (2011) developed a survey that specifically looked at history of workplace injuries, access to resources, and reporting behaviors. The survey was administered in person to Mexican nationals seeking services at the Mexican consulate in New York City. Gany and colleagues found that respondents were at high risk for occupational illness and injury, were not receiving adequate safety training, and were underreporting occupational injury. Targeted local efforts like this are an important complement to national surveillance efforts because they allow for a deeper and more nuanced examination of the occupational health of immigrant workers and are essential in gaining a better understanding of occupational injury, illness, and service utilization in the local immigrant community.

Methods used for occupational epidemiology need to reflect the changing nature of work and the demographics of the workforce (Schenker 2010). In an attempt to identify and address some of the deficiencies discussed above, the National Institute for Occupational Safety and Health organized the "Workshop on Improving Surveillance for Occupational Health Disparities" in April of 2008. One of the outcomes of the workshop was identifying four key methodological challenges: defining the disparity, obtaining adequate data on exposures, correctly estimating denominators, and avoiding bias in the use of an occupation variable (Souza et al. 2010). While a detailed discussion of the findings at this meeting is beyond the scope of this chapter, the topic is explored in greater detail in a special

issue of the *American Journal of Industrial Medicine* (Baron et al. 2010). It is clear that much still remains unknown about the occupational health of immigrants in the United States.

Barriers to OSH

A second area needing increased research efforts involves identifying why immigrants are injured at higher rates. Potential explanations can be grouped into three general categories: knowledge, culture, and structural barriers. This section provides an overview of each of these categories.

Knowledge. All workers have a right to know the potential health risks their job presents and the measures that can be taken to avoid these risks. Immigrant workers are no different, but for several reasons they are often at a disadvantage when compared with native-born workers. Immigrants coming to the United States often find themselves working in an industry they did not have experience with back home (Eggerth et al. 2012). For example, many recent Latino immigrants come from the countryside, where they worked as subsistence farmers. Yet, upon arrival to the United States the majority find themselves in urban areas working in the manufacturing, service, and construction industries. They are often required to use machines, chemicals, and tools that are foreign to them, and they are unaware of how to use the tools of their new trade safely. Even those who worked in similar industries in their home country often face unfamiliar materials and technologies on the job in the United States. Additionally, immigrant workers are often unfamiliar with safety procedures and regulations common to the US workplace. Standard safety procedures, across a wide range of industries, may be different or nonexistent in the immigrant's home country. Furthermore, safety regulations and the level of enforcement differ from one country to the next. What may be considered safe or allowable in Mexico, for example, may be against regulations in the United States.

Culture. While there have been increased efforts to address culture in public health research and interventions with immigrant workers, often these efforts, implicitly or explicitly, adopt a limited definition of culture. Culture is often reduced to a short list of static characteristics used to describe a particular group. For example, Latino culture is often characterized as being family oriented, fatalistic, and deferential to authority (Antshel 2002). While it is beyond the scope of this chapter to discuss the merits of these characterizations, we suggest that investigations using a broader understanding of culture are essential in understanding its contribution to occupational health disparities.

Generally speaking, research on culture and occupational health of immigrant workers should explore their shared set of beliefs, behaviors, and understanding of

symbols, and how these impact safety and health at work. This represents a wide range of topics, but some areas of importance include the lived experience of immigrants and how they understand themselves as workers and members of society, their common assumptions about the role of employees and employers and the proper way to relate to coworkers and supervisors, and perceptions regarding dangers at work and how they address these risks. A recent ethnographic study of Latino immigrant workers in Chicago suggests that being perceived as "a hard worker" is a cultural adaptation to help them compete for jobs (Gomberg-Muñoz 2010). Maintaining this image often requires immigrants to work faster and harder than their native-born counterparts. This often gives these workers a competitive edge in the labor market but can also place them at increased risk for injury. Individuals who attempt to slow down and work at a sustainable pace are often coerced by other immigrants to work harder. A second study looked at how the commonly accepted understanding of the etiology for arthritis put Latino immigrant farmworkers at risk for increased pesticide exposure (Quandt et al. 2001). Specifically, hand-washing stations were provided to workers in the field as a way of avoiding transmission of pesticides from the hands to the mouth when the workers ate lunch. However, workers were reluctant to wash their hands with the cold water because they believed that exposure to cold water, especially after physical activity, contributed to developing arthritis. These examples highlight how shared beliefs, either brought from home or developed after arrival, can impact the occupational health of immigrant workers.

Language is perhaps the most commonly identified cultural trait that could potentially impact the safety and health of immigrant workers on the job. The inability of supervisors, management, and coworkers to communicate effectively with their immigrant coworkers and vice versa is frequently identified as contributing to occupational health disparities (NRC 2003). This is particularly common in areas of the United States such as the Midwest and South, which have little to no bilingual infrastructure. The lack of bilingual infrastructure in a company often leads managers to identify the "best" English speaker among the immigrant workers and have that person translate for the other workers. This presents several problems. First, it is likely that this person does not speak English well and therefore the manager is not clearly understood. Second, it creates a dependence on this person and enables him or her to exploit that position for his or her own gain, if the person is so so inclined, by telling the employer one thing and the workers another. Employers often assume a natural affinity between all individuals of a minority ethnic/racial group. However, the Latino community is not homogeneous, and immigrants who are more proficient in English frequently come from or have obtained a better socioeconomic status than those who are not. These employees can exhibit a range of attitudes from unintended paternalism to intentional bigotry toward immigrants from a lesser station in life. Their familiarity

with the culture and lived immigrant reality allows them to more easily control and exploit their coworkers. This might be referred to as the "dark side of cultural competence." This is not to suggest that all privileged Latinos treat immigrants poorly or that Caucasian employees treat immigrants any better, but rather that ethnicity or race cannot be seen as a proxy for solidarity and/or homogeneity.

Structural Barriers. While knowledge and culture may contribute to occupational health disparities, some researchers have expressed concern that focusing on these two factors has inadvertently shifted the burden of workplace safety from the employer to the immigrant worker (Cole and Brown 1996). They argue that structural barriers such as workplace policies and practices, social norms of the dominant group, and laws have a significant impact on workers being exposed to riskier situations and their capacity to address unsafe situations at work. The changing nature of work and how it is organized, discrimination, and increased vulnerability resulting from undocumented immigration status (i.e., not having permission to live and work in the United States) are examples of the structural barriers to occupational safety and health (OSH) that many Latino immigrant workers face on a daily basis.

Workplace Policies and Practice. Government and industry policies and practices that influence how work is done and who does what work have changed dramatically in the past thirty years. The globalization of the economy has led to increased job insecurity, an increased power differential between employer and worker based on declining union participation, increased concentration of wealth, and increased stratification of the labor market (Quinlan and Sokas 2009; Siqueira et al. 2011; Landsbergis et al. 2011). A common explanation for the occupational health disparities of Latino immigrants has been that they are employed in more dangerous jobs. A recent study analyzed data from the Contingent Work Supplements in the Current Population Survey, along with the Quality of Employment Survey, and found that nonstandard work arrangements and lack of US citizenship may be more important than race and sex in channeling workers into less desirable, more dangerous jobs (Hudson 2007). Similarly, analysis of data from the American Community Survey and the Bureau of Labor Statistics Injuries, Illnesses, and Fatalities Program found that immigrants have a very limited range of employment opportunities and work in more dangerous jobs compared to native-born workers (Orrenius and Zavodny 2009). While these findings suggest that labor market segmentation is likely a contributing factor to occupational health disparities, they may not account for all the differences. Dong and Platner (2004) found that Latino construction helpers and roofers had far higher rates of fatal injuries than did non-Latinos who held the same positions. These disparities between workers with the same job may be the result of what is commonly referred

to in Europe as "precarious employment" (Porthe et al. 2010). Undocumented immigrants in Spain identified several characteristics of precarious employment. including high job instability, lower wages, and difficulty exercising their rights, all of which directly or indirectly contribute to the occupational safety and health of an individual or group (Garcia et al. 2009).

Social Norms of the Dominant Group. Discrimination based on racist or sexist societal norms that perpetuate power differentials between groups can negatively impact the physical and emotional heath of workers (Okechukwu et al. 2011). Workers not of the dominant group may be given harder or more dangerous tasks than their coworkers. For example, immigrant respondents in focus groups reported that they were often asked to work faster than their US-born counterparts or were denied basic protective equipment such as stools or gloves that their coworkers received (Flynn 2010). In addition, workers may often face reduced opportunities for advancement, increased chance of harassment or bullying, and unfair treatment, all of which contribute to occupational stress (Krieger et al. 2006). Eggerth et al. (2012) used focus groups and individual interviews to explore the work experience of Latina immigrants. Respondents reported that they not only faced occupational hazards similar to their male counterparts but also often had to contend with gender-specific concerns such as sexual harassment or increased employment insecurity because of pregnancy or child care. Additionally, they reported complications in their relationship with their husbands related to cultural expectations concerning the division of labor in the household as well as the challenges their increasing economic independence presented to the traditional family roles.

Legal Restrictions. Federal and state laws and regulations can directly (e.g., OSHA regulations) and indirectly (e.g., immigration laws) impact the occupational health of workers (Siquiera et al. 2011). Undocumented immigration status is one of the most often mentioned legal barriers to occupational health for many Latino immigrants. In 2008 it was estimated that undocumented immigrants comprised 5.4% (8.9 million) of the total labor force (165 million) in the United States, up from 4.3% just five years earlier (Pew 2009). Undocumented immigrants come from all corners of the globe; however, the majority (80%) is from Latin America. While this topic is often mentioned as contributing to the occupational health disparities of immigrant workers, surprisingly little research has been conducted on it (Schenker 2010). In qualitative interviews with day laborers in San Francisco, Walter et al. (2002) found that undocumented status was related to occupational health in two ways. First, upon arriving to the United States immigrants often reported feeling pressure to repay the money they had borrowed to pay human smugglers to guide them across the border. This often led them to

accept dangerous working conditions rather than turn down a day's wages. The second impact was the stress resulting from the constant fear of deportation. Another qualitative study with immigrants found that fear of job loss or deportation often results in immigrant workers not addressing dangerous situations at work (Flynn 2010). In addition, this study found that the recent wave of anti-immigrant legislation at the state and local level has not only legally excluded immigrants from some services and benefits but has also led many immigrants to believe they are ineligible for any legal protections, which leads many immigrants to avoid all institutions that might otherwise provide benefits. While this strategy of disengagement protects workers against deportation, in some circumstances it also prevents them from accessing resources they are entitled to, such as workers' compensation and OSHA protections.

Ironically, while structural barriers to OSH are often the most frequently identified by immigrant workers, they are the least studied in the literature. This suggests that while there is a need to develop a better understanding of all the barriers mentioned above, special attention should be paid to identifying and overcoming structural barriers.

Health Promotion

By law, in the United States, all workers must be trained regarding the occupational hazards associated with their jobs and the safety procedures used to avoid those hazards. However, research has generally found that Latino immigrant workers do not have access to effective safety training on the job either because training is not provided or because the training that is provided is of poor quality (NRC 2003). Recent efforts to improve OSH training for immigrant workers and other vulnerable worker populations are discussed at length in O'Connor et al. (2011). Two challenges to effectively promoting occupational safety and health for immigrant workers include the changing nature of work and the need for training to address barriers to safety beyond workers' knowledge and motivation. Research is needed to find effective ways of promoting OSH with immigrants in light of these and other challenges.

Changing Nature of Work. Safety training has traditionally been provided on the job by the employer, a labor union, or both. As mentioned above, structural changes to the economy have led to a decline in the unionized workforce and a move to more temporary and tenuous work relationships (e.g., the use of labor contractors). These changes have often clouded who is responsible for providing training to workers. It is also increasingly common for workers to hold a variety of jobs over their lifetimes. This is especially true for contingent or temporary workers, who may not only change jobs but also seek employment in different industries several times in the same year (O'Connor et al. 2011). Organizations charged

with promoting OSH have to adapt to these changes if they hope to remain effective and relevant. Finding settings outside the worksite to provide training is one potential way to address the challenge presented by the changing nature of work. This will often result in workers from a variety of employers, jobs, or industries attending the same training. Therefore a second challenge is developing content that is general enough that it will be relevant to workers from a variety of settings and will provide individuals with transferable safety skills if they switch jobs or industries.

Addressing Barriers. Traditionally, training has focused on transferring specific knowledge and skills from the trainer to the employees and convincing them that it is important to do things safely. The underlying assumption of this model is that if the workers know how to work safely and want to work safely, they will. Conversely, unsafe behaviors or incidents on the job are sometimes perceived to be the result of workers not knowing how to work safely or not choosing to work in a safe manner. This has become known as the "blame the worker" perspective. However, as mentioned above, there are a variety of reasons why workers feel pressured to work in an unsafe manner. Neal and Griffin (2004) suggest that while individual workers have a role to play in maintaining a safe workplace, it is often the attitudes and policies of the employer that have a greater impact on how work is performed. These barriers ultimately suggest the need for long-term social, political, and legal changes. Public policy research to identify problems, create potential remedies, and find effective ways of implementing these changes is essential to these efforts but can take a long time to enact (see Siquiera et al. 2011). In the meantime workers need to be given the tools to recognize and minimize, if not overcome, barriers to working safely while simultaneously advocating for these barriers to be eliminated. Training is essential, but not sufficient, to overcome all the barriers to safety that workers may experience. However, those providing safety training must do a better job of responding to the lived reality of workers by acknowledging the barriers that exist, providing practical ways to address these situations, and improving their access to resources such as legal consultation that can aid them in responding to unsafe situations. Increased access to resources is particularly important for immigrant workers, who are often unaware of the regulatory structure in the United States and how to access it. They may also fear approaching institutions for help as a result of their immigration status. Partnerships between OSH organizations and community/advocacy organizations in the immigrant community are one important way of improving access to resources for immigrant workers.

Documenting occupational health disparities for immigrant workers and investigating why these disparities exist are essential research tasks, but will be purely academic if this knowledge is not used to develop effective interventions that help prevent injuries and reduce disparities. While much of this work can be

carried out by community groups and activists, researchers are needed to develop and evaluate theory-based interventions rooted in the lived experience of workers so that effective replicable models can be developed and disseminated.

PRACTICAL CONSIDERATIONS

This section discusses some key considerations that we have found helpful in our research on occupational health and immigrant workers. Some of the challenges and benefits discussed here are unique to research on occupational safety and health, while others apply to research in all areas. This is not meant to be an exhaustive account but rather some tips we have discovered over the years.

Issues Unique to OSH

Unlike public health research on other topics, occupational health not only deals with issues related to the individual's health but also directly involves their livelihood. This can present methodological and ethical challenges. Workers are often reluctant to divulge information about problems with safety at work for fear their employer will find out and retaliate against them. This can lead to a range of problems, from incomplete data to job loss if respondents cannot be assured their information will be confidential. Most institutional review boards require standard methods to ensure that the data are not traceable to the individual. However, one potential weak link may be other research participants breaking confidentiality, intentionally or otherwise. For example, if two employees of the same company were to participate in the same focus group, one might reveal information damaging to his or her coworker by repeating comments heard in the group. This is a particular concern when research is conducted in smaller immigrant communities or in a particular worksite or industry where the potential pool of respondents is relatively small. Researchers must find ways to minimize these risks for the safety of the respondents and the quality of the data. Some suggestions could include ensuring that all focus group participants are employed by different companies or conducting individual interviews.

Another ethical concern involves protecting respondents who do not have documents allowing them to legally work in the United States. There are at least two major ethical concerns related to collecting data on undocumented status. The first is ensuring that these highly sensitive data remain confidential. There are several techniques, such as using pseudonyms, eliminating or not collecting other personally identifiable information, and building a series of firewalls in the recruiting process to ensure that there is no way of tracking the data back to specific individuals (Nuñez and Heyman 2007; Eggerth and Flynn 2010). The second concern is that by addressing undocumented status with individuals, they are being conditioned to openly discuss a topic that could be highly detrimental were they

to disclose it under different circumstances. Contrary to popular belief, we have found that participants will often freely discuss their undocumented status during focus groups and interviews, even when they are not asked about it directly. Because the future behavior of respondents is beyond the control of the researchers, this concern is more difficult to address than the first. One remedy we have used is to caution participants about revealing their status under different circumstances. Another has been to partner with grassroots immigrant advocacy groups to help recruit study participants. These groups are generally involved in promoting the rights of immigrants and frequently hold workshops for the community regarding their rights when interacting with law enforcement personnel or other government officials. Data collection frequently takes place in their facilities, and literature on the services they provide is made available to participants. Undocumented status is an overarching concern for many immigrants; thus researching this aspect of their lives is important and consistent with good professional ethics, if the correct care and consideration is taken.

While research on occupational health has some additional challenges, it also has at least one significant advantage. Unlike many other public health issues, the prevention and treatment of occupational injury and illness in the United States and many countries has a significant legal component. Generally speaking, employees, regardless of immigration status, are entitled to safe working conditions, the necessary knowledge and equipment to be safe on the job, and compensation for work-related injury or illness. This means that workers have concrete legal rights to resources aimed at preventing and treating work-related injuries and illnesses. While there can be barriers to accessing these protections, it is important to remember that they do exist and even more important to find effective ways to leverage these resources and ensure immigrants' access to them.

General Issues

Effective research generally involves working closely with the community. Therefore, one of the most important decisions for a researcher is choosing the right community partners (Eggerth and Flynn 2010). As has been mentioned previously, immigrant communities are frequently heterogeneous, and social divisions (i.e., race, class, regionalism, etc.) are often unrecognized by researchers who are not intimately familiar with the community. It is therefore essential to be aware of the role and reputation potential research partners (individuals or organizations) have in the immigrant community. Unfortunately, it is common for researchers to assume that because someone can speak the language or shares the same race or ethnicity, he or she will automatically be an effective partner (O'Connor et al. 2011). More care must be taken to understand the social position of your partners in relation to your research participants and how this may impact their effectiveness in brokering the relationship with the community. While there is no simple,

sure-fire way to vet potential partners, there are some general practices that may help identifying potential blind spots or prejudices of individuals involved in the project. First, remember that communities are diverse and this diversity often results in institutionalized power relationships. Second, discussing experiences of power, privilege, and oppression is often uncomfortable. Make a concerted effort to discuss these topics with all individuals involved in the project, including individuals from the immigrant community, when selecting team members, and throughout the research project. Finally, as with any potential employee, get referrals from a variety of community organizations when considering hiring someone. That being said, properly vetted members of the particular immigrant group are invaluable in research efforts and it is highly recommended that they form part of the research team.

Cross-cultural research on health disparities in general and OSH research in particular primarily focuses on documenting and understanding the minority group, such as immigrant workers. What is frequently ignored is that the researchers bring perspectives, prejudices, and assumptions to the project that are rooted in their own cultural backgrounds and social positions (O'Connor et al. 2011). If left unevaluated, the perspectives of the researchers can become the de facto norms for the study. This can lead to misunderstandings of core concepts of the study, which in turn can result in erroneous data and false conclusions. Unchecked assumptions can have more dire consequences as well. For example, a well-intentioned campaign encouraged immigrant workers who were injured on the job to report to their doctor that the accident was work related. However, the developers of the campaign did not consider the fact that many undocumented immigrants do not use their real names at work. This led to an individual losing his job because the name on the workers' compensation claim did not match his employer's records and he was suspected of working with fraudulent documents.

This example highlights the need for formative research and the strong involvement of community representatives in any research effort. Several methods for understanding the community's perspective and involving community members in the research process are described at length in other chapters of this book. One technique we have found to be particularly useful is cognitive interviewing (Willis 1999). Cognitive interviewing (or testing) refers to a series of related methods where the basic goal is to ensure that the researcher and the participants understand a particular concept, question, statement, or image in the same way. This technique has proven equally useful with translated materials, such as previously developed instruments, including "off-the-shelf" validated surveys, as well as original materials developed by native speakers of the target language. In short, since occupational health research has traditionally favored quantitative methods and so little is known about OSH and immigrants, it is important to emphasize the need for increased use of qualitative methods in all areas of investigation with

immigrant workers. Simply put, in many circumstances, it is premature to go directly into quantitative data collection as we don't know the questions we should be asking or what any answers might mean.

CONCLUSION

Labor migration to the United States and across the globe is a central characteristic and result of the global economy. In this chapter, we have argued that gaining a better understanding of the types and rates of injuries suffered by immigrants, contributing factors to these injuries, and improved prevention measures, will not only aid in protecting some of the most vulnerable workers in any society but will also reduce the economic burden for occupational injury and illness on society as a whole. However, in order to reach these goals most effectively, researchers will need to be flexible enough to collaborate with community partners on research design and goals, as well as enlisting their support with participant recruitment and data collection. Researchers also need to recognize their own cultural biases and recognize they may have cultural "blind spots." Finally, it is of the utmost importance that any interventions proposed and/or developed can be implemented and sustained by existing community resources, long after the artificial influx of grant dollars is gone.

REFERENCES

Ahonen, E. Q., F. G. Benavides, and J. Benach. 2007. "Immigrant populations, work and health—A systemic literature review." *Scandinavian Journal of Work, Environment and Health* 33(2):96–104.

Antshel, K. M. 2002. "Integrating culture as a means of improving treatment adherence in the Latino population." *Psychology, Health and Medicine* 4(4):435–49.

Azaroff, L. S., C. Levenstien, and D. H. Wegman. 2002. "Occupational injury and illness surveillance: Conceptual filters explain underreporting." *American Journal of Public Health* 92:1421–29.

Baron, S., J. Cone, and K. Souza, eds. 2010. "Special Issue: Occupational Health Disparities." *American Journal of Industrial Medicine* 53:81–215.

Caban-Martinez A. J., D. J. Lee, L. E. Fleming, K. L Arheart, W. G. Leblanc, K. Chung-Bridges, et al. 2007. "Dental care access and unmet dental care needs among U.S. workers: The National Health Interview Survey, 1978 to 2003." *Journal of the American Dental Association* 138:227–30.

Centers for Disease Control and Prevention (CDC). 2008. "Work-related injury deaths among Hispanics—United States, 1992–2006." *Morbidity and Mortality Weekly Report* 57(22):596–600.

Center to Protect Workers' Rights (CPWR). 2004. *Spanish-speaking construction workers discuss their safety needs and experiences: Residential construction program training program evaluation report.* Silver Spring, MD: CPWR.

Cole, B. L., and M. P. Brown. 1996. "Action on worksite health and safety problems: A follow-up survey of workers participating in a hazardous waste worker training program." *American Journal of Industrial Medicine* 30:730–43.

Connell, J. 1993. "Kitanai, kitsui, and kiken: The rise of labor migration to Japan." *Economic and Regional Restructuring Research Unit.* Sydney: University of Sydney.

Dong, X., and J. W. Platner 2004. "Occupational fatalities of Hispanic construction workers from 1992 to 2000." *American Journal of Industrial Medicine* 45:45–54.

Eggerth, D. E., S. C. DeLaney, M. A. Flynn, and C. J. Jacobson. 2012. "Work experiences of Latina immigrants: A qualitative study." *Journal of Career Development* 39(1):13–30.

Eggerth, D. E., and M. A. Flynn. 2010. "When the Third World comes to the first: Ethical considerations when working with immigrant workers." *Ethics and Behavior* 20(3):229–42.

Filios, M., M. Attfield, J. Graydon, S. Marsh, S. Nwlin, J. Sestito, et al. 2008. "The case for collecting occupational health data elements in electronic health records." Accessed 22 February 2012. http://www.cste.org/dnn/Portals/0/The%20Case%20for%20Collecting%20Occ%20Health%20Data%20Elements%20in%20EHRs.pdf.

Fleming, L. E., O. Gomez-Marin, D. Zheng, F. Ma, and D. Lee. 2003. "National Health Interview Survey mortality among US farmers and pesticide applicators." *American Journal of Industrial Medicine* 43:227–33.

Flynn, M. A. 2010. "Undocumented status and the occupational lifeworlds of Latino immigrants in a time of political backlash: The workers' perspective." Master's thesis, University of Cincinnati, Cincinnati, Ohio. Retrieved 22 December 2011. http://etd.ohiolink.edu/view.cgi?acc_num = ucin1280776817.

Gany, F., R. Dobslaw, J. Ramirez, J. Tonda, I. Lobach, and J. Leng. 2011. "Mexican urban occupational health in the US: A population at risk." *Journal of Community Health* 36(2):175–79.

Garcia, A. M., M. J. Lopez-jacomb, A. A. Agudelo-Suarez, C. Ruiz-Frutos, E. Q. Ahonen, and V. Porthe. 2009. "Condiciones de trabajo y salud en inmigrantes (Proyecto ITSAL): Entrivistas a informes claves." *Gac Sanit* 23(2):91–99.

Gomberg-Muñoz, R. 2010. "Willingness to work: Agency and vulnerability in an undocumented immigrant network." *American Anthropologist* 112(2):295–307.

Goodman, L. A. 1961. Snowball Sampling. *Annals of Mathematical Statistics* 32:148–70.

Health Foundation of Greater Cincinnati. 2006. 2005 Greater Cincinnati Hispanic/Latino Health Survey. Cincinnati, OH: HFGC.

Heckathorn, D. D. 1997. "Respondent-driven sampling: A new approach to the study of hidden populations." *Social Problems* 44:2.

Hudson, K. 2007. "The new labor market segmentation: Labor market dualism in the new economy." *Social Science Research* 36:286–312.

International Labor Organization (ILO). 2009. "International labor migration and employment in the Arab region: Origins, consequences and the way forward." Accessed 16 February 2012. http://www.ilo.org/public/english/region/arpro/beirut/downloads/aef/migration_eng.pdf.

International Migration Institute (IMI). 2006. "Towards a new agenda for international migration research." James Martin Twenty-First Century School, University of Oxford. Accessed 16 February 2012. http://www.imi.ox.ac.uk/pdfs/a4-imi-research-agenda.pdf.

Krieger, N., P.D. Waterman, C. Hartman, L.M. Bates, A.M. Stoddard, M.M. Quinn, G. Sorensen, and E.M. Barbeau. 2006. "Social hazards on the job: Workplace abuse, sexual harassment, and racial discrimination—A study of black, Latino, and white low-income women and men workers (US)." *International Journal of Health Services* 36:51–85.

Landsbergis, P.A., J.G. Grzywacz, and A.D. LaMontagne. 2011. "Work organization, job insecurity and occupational health disparities." Issue paper presented at the Eliminating Health Disparities at Work Conference, 14 September 2011, Chicago.

Leigh, J.P. 2011. "Economic burden of occupational injury and illness in the United States." *Milbank Quarterly* 89(4):728–72.

Loh, K., and S. Richardson. 2004. "Foreign-born workers: Trends in fatal occupational injuries, 1996–2001." *Monthly Labor Review* (June):42–53.

National Research Council (NRC). 2003. "Executive Summary." In *Safety is seguridad*, 1–32. Washington, DC: National Academies Press.

Neal, A., and M.A. Griffin. 2004. "Safety climate and safety at work." In J. Barling and M.R. Frone, eds., *The psychology of workplace safety*, 15–34. Washington, DC: American Psychological Association.

Nuñez, G.G., and J.M. Heyman. 2007. "Entrapment process and immigrant communities in a time of heightened border vigilance." *Human Organization* 66:354–65.

O'Connor, T., M.A. Flynn, D. Weinstock, and J. Zanoni. 2011. "Education and training for underserved populations." An issue paper presented at the Eliminating Health Disparities at Work Conference, 14 September 2011, Chicago.

O'Connor, T., P. Gildner, and M. Easter. 2000. "Immigrant workers at risk: A qualitative study of hazards faced by Latino immigrant construction workers in the Triangle Area of North Carolina." Durham: North Carolina Occupational Safety and Health Project. Accessed 5 January 2014. http://coshnetwork6.mayfirst.org/sites/default/files/cpwrstudy.pdf.

Okechukwu, C., K. Souza, K. Davis, and B. de Castro. 2011. "Discrimination, harassment, abuse, and bullying in the workplace: Contribution of workplace injustice to occupational health disparities." Issue paper presented at the Eliminating Health Disparities at Work Conference, 14 September 2011, Chicago.

Orrenius, P.M., and M. Zavodny. 2009. "Do immigrants work in riskier jobs?" *Demography* 46(3):535–51.

Passel, J.S., and V.D. Cohn. 2009. "A portrait of unauthorized immigrants in the United States." Washington, DC: Pew Hispanic Center.

Pew Hispanic Center. 2005. "The new Latino South: The context and consequences of rapid growth." Washington, DC: Pew Research Center.

Pew Hispanic Center. 2008. "U.S. population projections: 2005–2050." Washington, DC: Pew Research Center.

Pew Hispanic Center. 2009. "Statistical portrait of Hispanics in the United States, 2009." Washington, DC: Pew Research Center.

Pew Hispanic Center. 2011. "Country of origin profiles." Washington, DC: Pew Research Center. Accessed 28 December 2011. http://www.pewhispanic.org/2011/05/26/country-of-origin-profiles/.

Porthe, V., E. Ahonen, M.L. Vazquez, C. Pope, A.A. Agudelo, A.M. Garcia, et al. 2010. "Extending a model of precarious employment: A qualitative study of immigrant workers in Spain." *American Journal of Industrial Medicine* 53:417–24.

Quandt, S. A., T. A. Arcury, C. K. Austin, and L. F. Cabrera. 2001. "Preventing occupational exposure to pesticides: Using participatory research with Latino farmworkers to develop an intervention." *Journal of Immigrant Health* 3(2):85–96.

Quandt, S. A., J. G. Grzywacz, A. Marin, L., Carrillo, M. L. Coates, B. Burke, and T. A. Arcury. 2006. "Illness and injuries reported by Latino poultry workers in Western North Carolina." *American Journal of Industrial Medicine* 49:343–51.

Quinlan, M., and R. K. Sokas. 2009. "Community campaigns, supply chains, and protecting the health and well-being of workers." *American Journal of Public Health* 99 (Suppl. 3):S538–46.

Richardson, S., R. Ruser, and P. Suarez. 2003. "Hispanic workers in the United States: An analysis of employment distributions, fatal occupational injuries, and non-fatal occupational injuries and illnesses." In *Safety is seguridad,* 43–82. Washington, DC: National Academies Press.

Ruser, J. W. 2008. "Examining evidence on whether BLS undercounts workplace injuries and illnesses." *Monthly Labor Review* 131:20–31.

Schenker, M. B. 2010. "A global perspective on migration and occupational health." *American Journal of Industrial Medicine* 53:329–37.

Siqueira, C. E., M. Gaydos, C. Monforton, K. Fagen, C. Slatin, L. Borkowski, et al. 2011. "Effects of social, economic, and labor policies on occupational health disparities." Issue paper presented at the Eliminating Health Disparities at Work Conference, 14 September 2011, Chicago.

Smith-Nonini, S. 2003. "Back to 'The Jungle': Processing migrants in North Carolina meatpacking plants." *Anthropology of Work Review* 24:14–20.

Souza, K., L. Davis, and J. Shire. 2011. "Occupational and environmental health surveillance." In B. S. Levy, D. H. Wegman, S. L. Baron, and R. K. Sokas, eds., *Occupational and environmental health: Recognizing and preventing disease and injury.* 6th ed. Oxford: Oxford University Press. 55–68.

Souza, K., A. L. Steege, and S. L. Baron. 2010. "Surveillance of occupational health disparities: Challenges and opportunities." *American Journal of Industrial Medicine* 53:84–94.

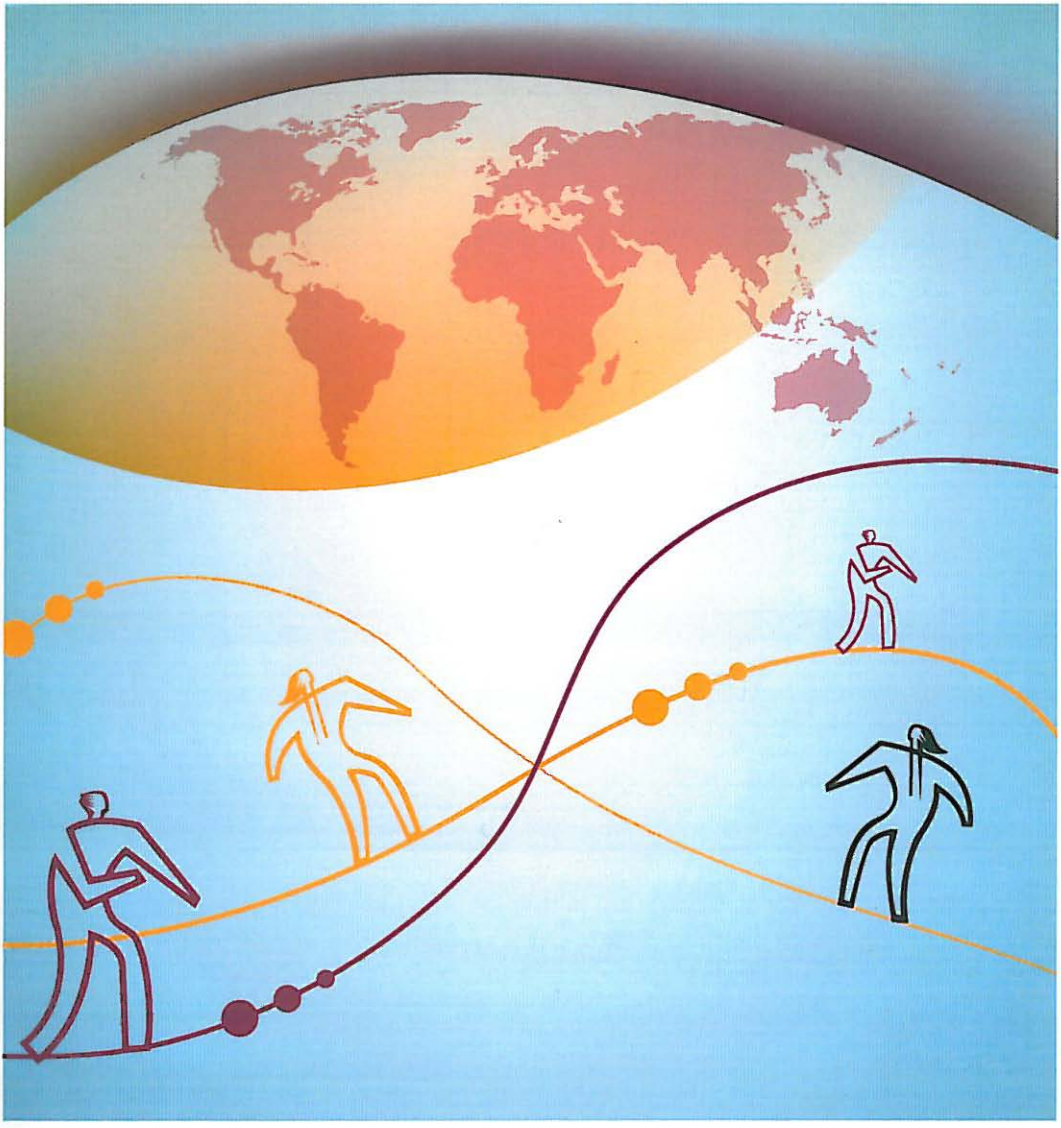
Steege, A. L., S. Baron, and X. Chen. 2009. "Occupational health of hired from workers in the United States: National agricultural workers' survey occupational health supplement, 1999." DHHS (NIOSH) publication no. 209–119. Washington, DC: DHHS.

Striffler, S. 2007. "Neither here nor there: Mexican immigrant workers and the search for home." *American Ethnologist* 34(4):674–88.

Stuesse, A. C. 2009. "Race, migration, and labor control: Neoliberal challenges to organizing Mississippi's poultry workers." In M. E. Odem and E. Lacy, eds., *Latino immigrants and the transformation of the U.S. South,* 91–111. Athens: University of Georgia Press.

Walter, N., P. Bourgois, L. H. Loinaz, and D. Schillinger. 2002. "Social context of work injury among undocumented day laborers in San Francisco." *Journal of General Internal Medicine* 17:221–29.

Willis, G. B. 1999. *Cognitive interviewing and questionnaire design: A training manual.* Washington, DC: Office of Research and Methodology, National Center for Health Statistics. Centers for Disease Control and Prevention, Department of Health and Human Services.



MIGRATION AND HEALTH

A RESEARCH METHODS HANDBOOK

EDITED BY MARC B. SCHENKER
XÓCHITL CASTAÑEDA
ALFONSO RODRIGUEZ-LAINZ

University of California Press, one of the most distinguished university presses in the United States, enriches lives around the world by advancing scholarship in the humanities, social sciences, and natural sciences. Its activities are supported by the UC Press Foundation and by philanthropic contributions from individuals and institutions. For more information, visit www.ucpress.edu.

University of California Press
Oakland, California

Library of Congress Cataloging-in-Publication Data

Migration and health : a research methods handbook / edited by Marc B. Schenker, Xóchitl Castañeda, Alfonso Rodriguez-Lainz.

p. cm.

Includes bibliographical references and index.

ISBN-13: 978-0-520-27794-6 (cloth : alk. paper)

ISBN-10: 0-520-27794-5 (cloth : alk. paper)

ISBN-13: 978-0-520-27795-3 (pbk. : alk. paper)

ISBN-10: 0-520-27795-3 (pbk. : alk. paper)

1. Immigrants—Health and hygiene—Research—Methodology.

I. Schenker, Marc, editor. II. Castañeda, Xochitl, editor.

III. Rodriguez-Lainz, Alfonso, 1958-, editor.

RA427.M47 2014

613.086'912—dc23 2014019613

Manufactured in the United States of America

23 22 21 20 19 18 17 16 15 14

10 9 8 7 6 5 4 3 2 1

In keeping with a commitment to support environmentally responsible and sustainable printing practices, UC Press has printed this book on Natures Natural, a fiber that contains 30% post-consumer waste and meets the minimum requirements of ANSI/NISO Z39.48–1992 (R 1997) (*Permanence of Paper*).