National Institute for Occupational Safety and Health

Identifying, Understanding, and Addressing Occupational Health Inequities through Research

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The findings and conclusions in this article are those of the author and do not necessarily represent the views of the National Institute for Occupational Safety and Health, Centers for Disease Control and Prevention.

Historical Roots and Current Paradigm of OSH

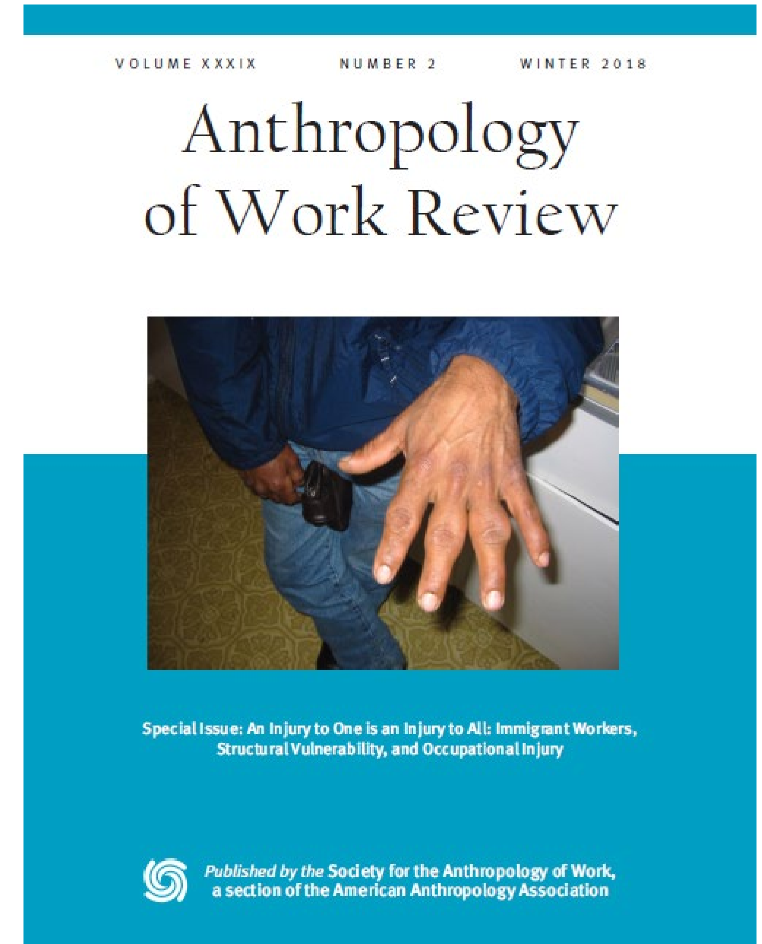
- Historical roots in social medicine
  - Social and economic effects on health
  - Virchow's work on typhus among miners

- Evolution into technical field
  - Biomedical model of medicine
    - Isolate single, proximate factors that "cause" injury
    - Significant declines in workplace illness and injury

Rudolf Virchow (1921); German physician considered the "founder of social medicine." Credit Wikipedia

Challenges to Current Paradigm

- Broader understanding of work and health
  - Beyond what happens on job
  - NIOSH Total Worker Health
- Restructure of the world of work
  - Fourth Industrial Revolution
  - NIOSH Future of Work Initiative
- Increased awareness of social inequality
  - NIOSH Occupational Health Equity program



Paradigm Shift

- Account for wider influences on health outcomes
  - Expand and complement the reductionist view of cause and effect
  - Social, political, and economic context that contributes to health outcomes(blog post)
- Employ a biopsychosocial approach
  - Explores the dynamic, multidirectional interactions between biological phenomena, psychological factors and social relationships and contexts, which constitute processes of human development over the life course

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Commentary

Health Equity and a Paradigm Shift in Occupational Safety and Health

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Abstract: Despite significant improvements in occupational safety and health (OSH) over the past 50 years, there remain persistent inequities in the burden of injuries and illnesses. In this commentary, the authors assert that addressing these inequities, along with challenges associated with the fundamental reorganization of work, will require a more holistic approach that accounts for the social contexts within which occupational injuries and illnesses occur. A biopsychosocial approach explores the dynamic, multidirectional interactions between biological phenomena, psychological factors, and social contexts, and can be a tool for both deeper understanding of the social determinants of health and advancing health equity. This commentary suggests that reducing inequities will require OSH to adopt the biopsychosocial paradigm. Practices in at least three key areas will need to adopt this shift. Research that explicitly examines occupational health inequities should do more to elucidate the effects of social arrangements and the interaction of work with other social determinants on work-related risks, exposures, and outcomes. OSH studies regardless of focus should incorporate inclusive methods for recruitment, data collection, and analysis to reflect societal diversity and account for differing experiences of social conditions. OSH researchers should work across disciplines to integrate work into the broader health equity research agenda.

Keywords: occupational safety and health; health equity; social determinants of health; work; biopsychosocial model; inclusive research methods

check for updates

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1. Introduction

Increased levels of disease and poverty among workers during the industrial revolution led Rudolf Virchow and others to establish the field of social medicine, which explores how social and economic conditions affect health, disease, and the practice of medicine [1]. However, the field of occupational safety and health (OSH) has evolved over the past half-century from its historic roots in social medicine into a largely technical field that focuses on identifying and eliminating physical, chemical, biological, and ergonomic hazards found in the workplace [2,3]. Rooted in the biomedical model of health [4], OSH generally utilizes a reductionist approach to isolate and address single, proximate factors that "cause" an injury or illness. This model has led to significant improvements in worker health over the past 50 years [5]. Nevertheless, persistent inequities in the burden of occupational injuries and illnesses, as well as challenges associated with the fundamental reorganization of the world of work [6], highlight the need to expand the current paradigm to account for the social contexts within which occupational injuries and illnesses occur [7–9]. Consideration of the role that social institutions and norms play in the inequitable distribution of work-related risks and benefits across society, and resultant issues of health equity, are central to this shift in OSH from a biomedical to a biopsychosocial approach [4]. A biopsychosocial approach takes a more holistic view by exploring the dynamic, multidirectional interactions between biological phenomena, psychological factors, and social relationships and contexts, which constitute processes of human development over the life course.

Occupational Health Equity Program (OHE)

- **Mission**: promote research, outreach, and prevention activities that reduce *avoidable* differences in workplace injury and illness that are closely linked with *social*, *economic*, and/or *environmental disadvantage*.

- Accepts that social arrangements contribute to the inequitable distribution of positive and negative work-related health outcomes

- Asserts that addressing work-related inequities requires a holistic approach (blog)

Promoting productive workplaces through safety and health research / NIOSH

Occupational Health Equity

Not all workers have the same risk of experiencing a work-related health problem, even when they have the same job. *Occupational health inequities* are avoidable differences in work-related disease incidence, mental illness, or morbidity and mortality that are closely linked with social, economic, and/or environmental disadvantage such as work arrangements (e.g. contingent work), socio-demographic characteristics (e.g. age, sex, race, and class), and organizational factors (e.g. business size). The Occupational Health Equity program promotes research, outreach, and prevention activities that reduce health inequalities for workers who are at higher risk for occupational injury and illness as a result of social and economic structures historically linked to discrimination or exclusion.

Featured Items

Partnering to Educate English-Language Learners in Alaska on Worker Safety and Health
The Occupational Health Equity program partnered with the Anchorage Health Literacy Collaborative to educate adult English-language learners, many of whom are immigrants, on worker safety and health principles

Workplace Discrimination
NIOSH provides national prevalence estimates of workplace discrimination and mistreatment from a community-based cohort of employed black and white men and women aged ≥48 years.

Low-wage Workers
A new study from the National Institute for Occupational Safety and Health (NIOSH) found that patient care aides, a low-

Occupational Health Equity Program

- Key areas of focus
  1. **Research focused on occupational health inequities**
  2. Inclusive research practices across OSH **(Aug. 3)**
  3. Connection between work and health inequities **(Nov. 2)**

- First of three presentations

Central Challenge

- A central challenge to securing occupational health equity is that the same social structures that contribute to health inequities also operate and are reproduced by occupational health organizations.

- In other words, safety and health organizations have evolved to better meet the needs of some groups more than others.

Current Limitations

- Research on the technical aspects of OSH has been historically favored over that which explores the social context that circumscribe occupational health outcomes
- This long-standing imbalance has led to research questions, funding decisions, data collection instruments, and scientific assumptions that are tailored to understand the normative group
- Fits with a larger trend of "desocialization" of scientific inquiry or "the tendency to ask only biological questions about what are in fact biosocial phenomena" (Farmer et al. 2006, 1686).
- Limits Heath Equity Research and Expertise
- Limits Institutional Capacity to Address Social Context

Health Equity Science: More than Good Intentions

- Prioritization of health equity
  - Resulted in gold rush on projects
  - Apply same approach to different populations
    - Assumes competence
    - Can be ineffective or counterproductive
    - Displaces health equity experts
- Health equity is an area of expertise
  - Contains rich theoretical, methodological, and ethical literature
  - Informed by social sciences, relationships, and praxis
- Encourage responsible research
  - Include collaboration (SME and communities)
  - Develop expertise
  - Commit to long-term engagement

Executive Order on Ensuring an Equitable Pandemic Response and Recovery

JANUARY 21, 2021 • PRESIDENTIAL ACTIONS

Journal of Medical Systems (2022) 46:17
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HEALTH POLICY

Health Equity Tourism: Ravaging the Justice Landscape

Elle Lett[1] · Dalí Adekunle[2] · Patrick McMurray[3] · Emmanuella Ngozi Asabor[4,5] · Whitney Irie[6,7] · Melissa A. Simon[8,9] · Rachel Hardeman[10] · Monica R. McLemore[11]

A STAT INVESTIGATION

'Health equity tourists': How white scholars are colonizing research on health disparities

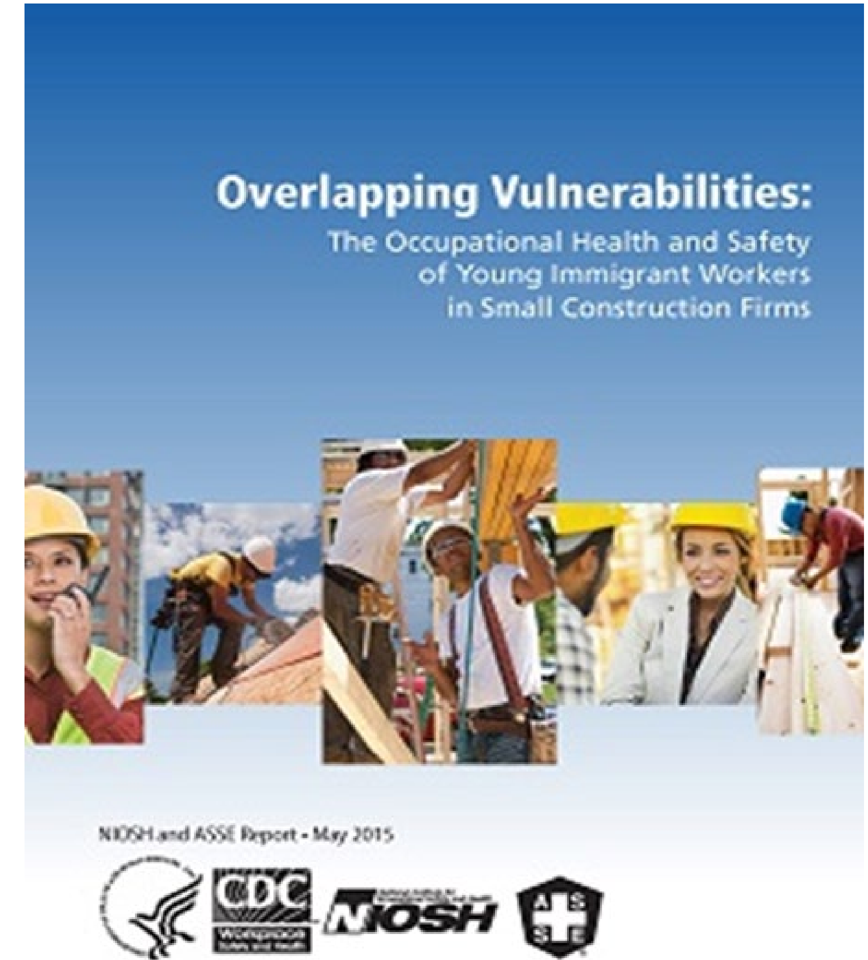
By Usha Lee McFarling Sept. 23, 2021

Research Targeting Occupational Health Inequities

- Identify which structural disadvantages contribute to increased risk
- Explain how social arrangements materialize in the lives of workers
- Develop and evaluate interventions

Social Determinants of Occupational Health

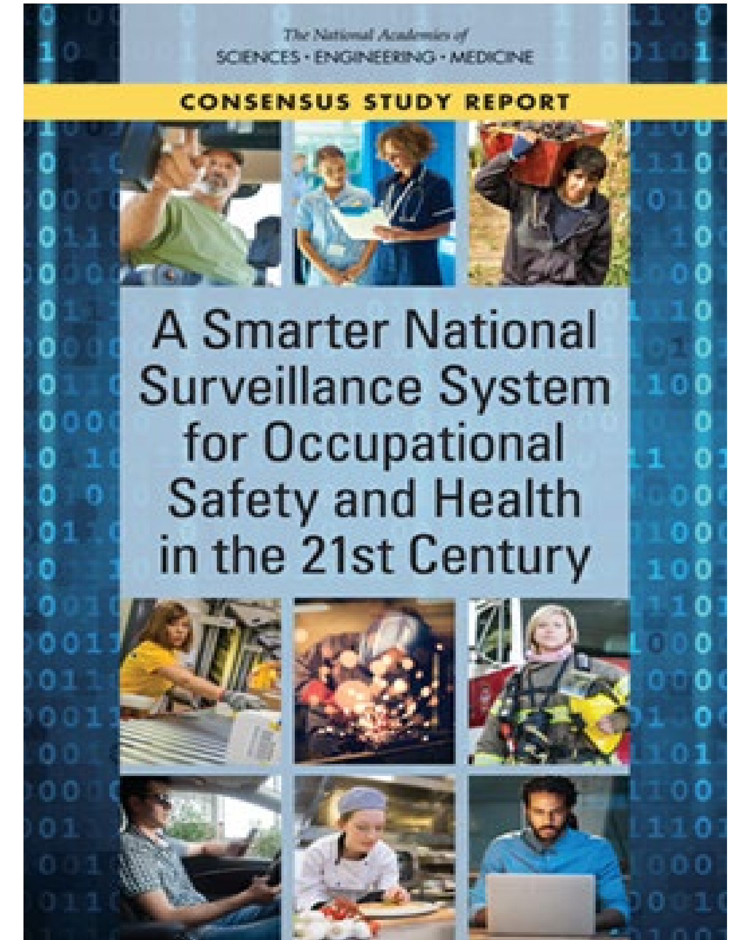
- Society (social axis)
  - Race/ethnicity
  - Class
  - Gender
  - Nativity
- Industries and organizations
  - Competitive bidding
  - Sub-contracting practices
  - Business size
- Jobs
  - Employment arrangement
  - Shift work
  - Autonomy



Limitations

- Data systems
  - Data sets missing key demographic variables
  - Collection of demographic data is incomplete

- Equity research limited to a single characteristic
  - Incomplete or narrow understanding
    - Lacks intersectionality



EXAMPLES OF POTENTIAL BARRIERS TO IMPROVING OSH OUTCOMES

HISPANIC IMMIGRANTS

Language barriers

Fear of reprisals

Limited knowledge of OSH laws

SMALL BUSINESSES

Fewer resources such as safety training and equipment

Limited time for OSH activities

YOUNGER WORKERS

Discomfort voicing concerns

Age power differential

Research Targeting Occupational Health Inequities

- Identify which structural disadvantages contribute to increased risk
- Explain how social arrangements materialize in the lives of workers
- Develop and evaluate interventions

Structural Disadvantage and Privilege

- Socially constructed
  - Dynamic
    - Change over place and time
  - Disadvantage and privilege

- Institutional arrangements
  - Not individual characteristics
  - Multifaceted – laws, media, discourse

- Understand
  - How constructed
  - How experienced
  - How addressed

Article

THE LEGAL PRODUCTION OF MEXICAN/MIGRANT "ILLEGALITY"

Nicholas De Genova
Columbia University, New York, NY

Abstract

Mexican migration to the United States is distinguished by a seeming paradox that is seldom examined: while no other country has supplied nearly as many migrants to the US as Mexico, major changes in US immigration law since 1965 have created ever more severe restrictions on "legal" migration from Mexico in particular. This paper delineates the historical specificity of Mexican migration as it has come to be located in the legal economy of the US nation-state, and thereby constituted as an object of the law. More precisely, this paper examines the history of changes in US immigration law through the specific lens of how these revisions with respect to the Western Hemisphere, and thus, all of Latin America, have had a distinctive and disproportionate impact upon Mexicans in particular.

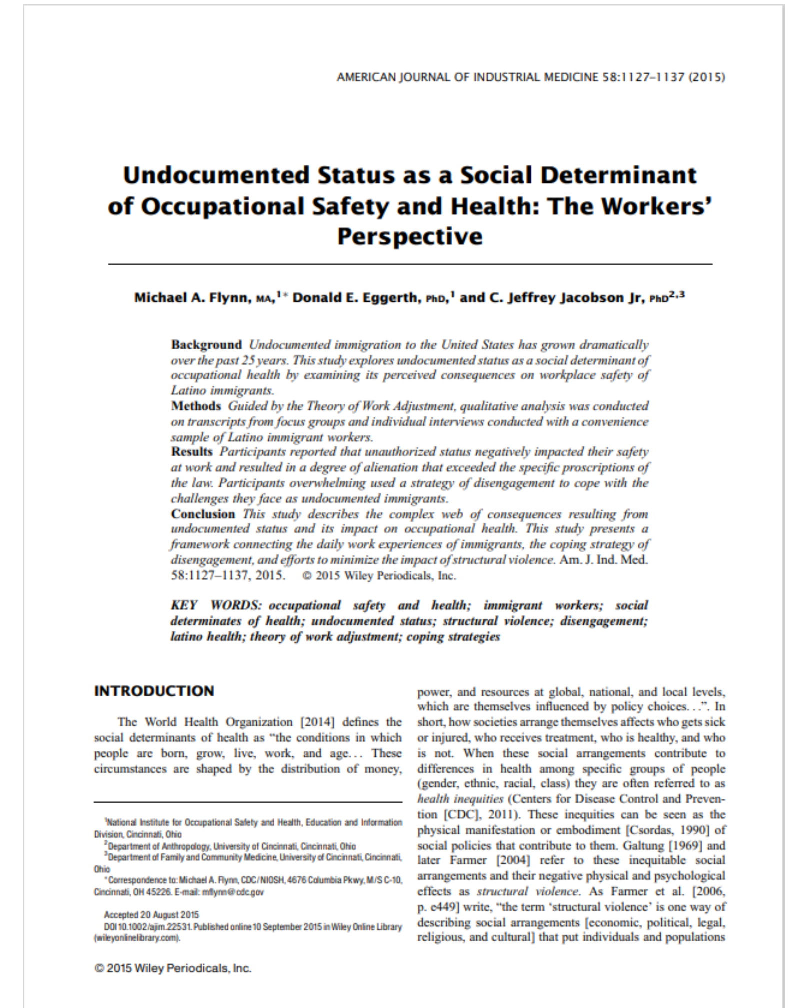
Keywords

undocumented Mexican migration; illegality; deportability; immigration law; race; citizenship

Mexican migration to the United States is distinguished by a seeming paradox that is seldom examined: while no other country has supplied nearly as many migrants to the US as has Mexico since 1965, virtually all major changes in US immigration law during this period have created ever more severe restrictions on the conditions of "legal" migration from Mexico. Indeed, this seeming paradox presents itself in a double sense: on the one hand, apparently liberalizing immigration laws have in fact concealed significantly restrictive features, especially for Mexicans; on the other hand,

Undocumented Status as a Social Determinant

- "Illegality" dynamic social construct
  - Relocate costs of social reproduction
  - Economic centrality, social marginality (work vs safety)
- Often mentioned but not studied
  - Overarching assumption - fear of deportation
  - More immediate concern is resulting economic instability
- "Disengagement" as coping strategy
  - Avoid institutions for fear it would create more problems than solutions
  - Result is a degree of alienation and marginalization that exceeds the specific proscriptions of the law



AMERICAN JOURNAL OF INDUSTRIAL MEDICINE 58:1127–1137 (2015)

Undocumented Status as a Social Determinant of Occupational Safety and Health: The Workers' Perspective

Michael A. Flynn, MA,[1]* Donald E. Eggerth, PhD,[1] and C. Jeffrey Jacobson Jr, PhD[2,3]

Background *Undocumented immigration to the United States has grown dramatically over the past 25 years. This study explores undocumented status as a social determinant of occupational health by examining its perceived consequences on workplace safety of Latino immigrants.*
Methods *Guided by the Theory of Work Adjustment, qualitative analysis was conducted on transcripts from focus groups and individual interviews conducted with a convenience sample of Latino immigrant workers.*
Results *Participants reported that unauthorized status negatively impacted their safety at work and resulted in a degree of alienation that exceeded the specific proscriptions of the law. Participants overwhelming used a strategy of disengagement to cope with the challenges they face as undocumented immigrants.*
Conclusion *This study describes the complex web of consequences resulting from undocumented status and its impact on occupational health. This study presents a framework connecting the daily work experiences of immigrants, the coping strategy of disengagement, and efforts to minimize the impact of structural violence.* Am. J. Ind. Med. 58:1127–1137, 2015. © 2015 Wiley Periodicals, Inc.

KEY WORDS: occupational safety and health; immigrant workers; social determinates of health; undocumented status; structural violence; disengagement; latino health; theory of work adjustment; coping strategies

INTRODUCTION

The World Health Organization [2014] defines the social determinants of health as "the conditions in which people are born, grow, live, work, and age… These circumstances are shaped by the distribution of money, power, and resources at global, national, and local levels, which are themselves influenced by policy choices…". In short, how societies arrange themselves affects who gets sick or injured, who receives treatment, who is healthy, and who is not. When these social arrangements contribute to differences in health among specific groups of people (gender, ethnic, racial, class) they are often referred to as *health inequities* (Centers for Disease Control and Prevention [CDC], 2011). These inequities can be seen as the physical manifestation or embodiment [Csordas, 1990] of social policies that contribute to them. Galtung [1969] and later Farmer [2004] refer to these inequitable social arrangements and their negative physical and psychological effects as *structural violence*. As Farmer et al. [2006, p. e449] write, "the term 'structural violence' is one way of describing social arrangements [economic, political, legal, religious, and cultural] that put individuals and populations

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Business Size, Immigration, and Training

- Overrepresented in smaller companies
- Training for Hispanic immigrants
  - Construction firms
    - 50 small, 215 large
  - Hispanic immigrant workers in smaller firms
    - Less required training
    - Less tailored trainings
    - Less overall safety communication

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Differences in safety training among smaller and larger construction firms with non-native workers: Evidence of overlapping vulnerabilities

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A B S T R A C T

Collaborative efforts between the National Institute for Occupational Safety and Health (NIOSH) and the American Society of Safety Engineers (ASSE) led to a report focusing on overlapping occupational vulnerabilities, specifically small construction businesses employing young, non-native workers. Following the report, an online survey was conducted by ASSE with construction business representatives focusing on training experiences of non-native workers. Results were grouped by business size (50 or fewer employees or more than 50 employees). Smaller businesses were less likely to employ a supervisor who speaks the same language as immigrant workers ($p < .001$). Non-native workers in small businesses received fewer hours of both initial safety training ($p = .005$) and monthly ongoing safety training ($p = .042$). Immigrant workers in smaller businesses were less likely to receive every type of safety training identified in the survey (including pre-work safety orientation [$p < .001$], job-specific training [$p < .001$], OSHA 10-hour training [$p = .001$], and federal/state required training [$p < .001$]). The results highlight some of the challenges a vulnerable worker population faces in a small business, and can be used to better focus intervention efforts. Among businesses represented in this sample, there are deficits in the amount, frequency, and format of workplace safety and health training provided to non-native workers in smaller construction businesses compared to those in larger businesses. The types of training conducted for non-native workers in small business were less likely to take into account the language and literacy issues faced by these workers. The findings suggest the need for a targeted approach in providing occupational safety and health training to non-native workers employed by smaller construction businesses.

1. Introduction

Social structures such as race, class, and gender; employment trends such as the growth of the temporary workforce; and organizational factors such as business size can all contribute to the greater vulnerability of some workers to workplace illness or injury than others.

A worker with overlapping vulnerabilities is simultaneously a member of two or more at-risk groups, such as being an immigrant and a temporary worker, or being a young worker and employed by a small, non-union business. Each vulnerability has characteristics that add unique barriers to the worker's occupational safety and health (OSH). For example, a non-native worker may fear deportation for reporting unsafe conditions [Flynn et al., 2015] and younger workers may accept work injuries as "part of the job" because of their inexperience and lack of job control [Breslin et al., 2007]. OSH vulnerability may also intensify existing barriers to safety that are common for all workers, such as lack of training in small businesses due to financial constraints [Cunningham et al., 2014]. As these vulnerabilities are independently associated with additional risk of workplace injury or illness, the interaction between risk factors may create even more risk for groups experiencing multiple vulnerabilities than for those who experience only one risk factor. However, more work is needed to clarify how these overlapping vulnerabilities interact and may intensify the risk for occupational injury and illness and how OSH professionals can effectively reduce these risks.

In 2015, the American Society of Safety Engineers (ASSE) and the National Institute for Occupational Safety and Health (NIOSH) initiated an intervention effort to reach workers experiencing overlapping OSH vulnerabilities in small construction businesses. Their initial efforts resulted in the report *Overlapping Vulnerabilities: The Occupational Health and Safety of Young Immigrant Workers in Small Construction Firms* [NIOSH and ASSE, 2015]. This report focused on three populations that

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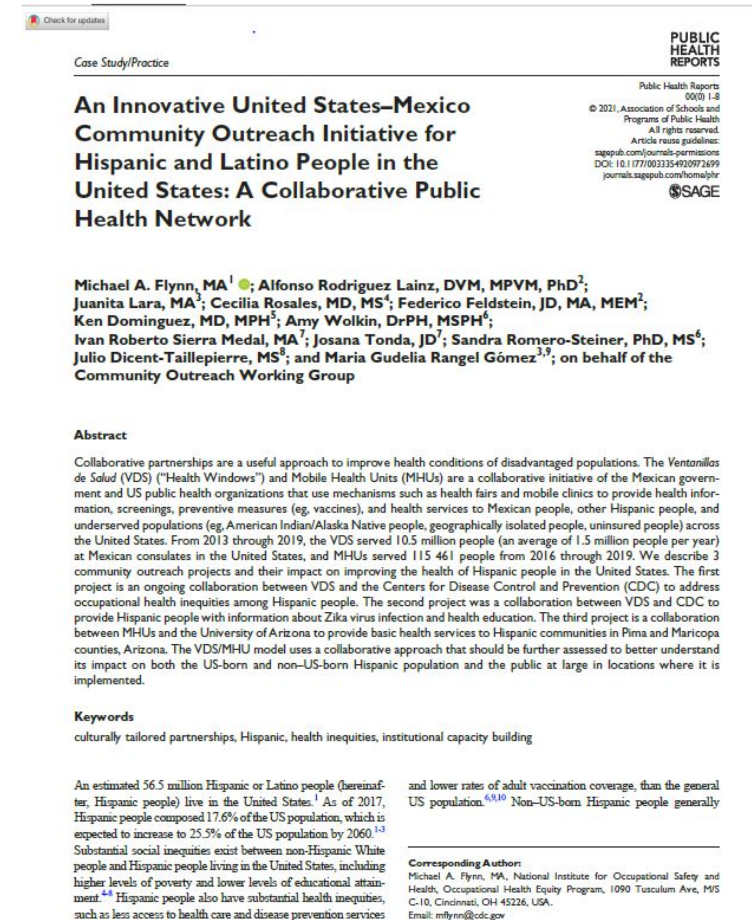
Targeted OHE Research

- Identify which structural disadvantages contribute to increased risk
- Explain how social arrangements materialize in the lives of workers
- Develop and evaluate interventions

Normative Perspective and Health Inequities

- Inverse Equity Hypothesis
  - Those who most need preventative interventions are least likely to receive them
- Intervention-generated Inequalities
  - Aggravate inequities as they can disproportionally help members of less disadvantaged groups
- Normative perspective become reified in the literature
  - Self-reinforcing feedback loop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Case Study/Practice

PUBLIC HEALTH REPORTS

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SAGE

An Innovative United States–Mexico Community Outreach Initiative for Hispanic and Latino People in the United States: A Collaborative Public Health Network

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Abstract

Collaborative partnerships are a useful approach to improve health conditions of disadvantaged populations. The *Ventanillas de Salud* (VDS) ("Health Windows") and Mobile Health Units (MHUs) are a collaborative initiative of the Mexican government and US public health organizations that use mechanisms such as health fairs and mobile clinics to provide health information, screenings, preventive measures (eg, vaccines), and health services to Mexican people, other Hispanic people, and underserved populations (eg, American Indian/Alaska Native people, geographically isolated people, uninsured people) across the United States. From 2013 through 2019, the VDS served 10.5 million people (an average of 1.5 million people per year) at Mexican consulates in the United States, and MHUs served 115 461 people from 2016 through 2019. We describe 3 community outreach projects and their impact on improving the health of Hispanic people in the United States. The first project is an ongoing collaboration between VDS and the Centers for Disease Control and Prevention (CDC) to address occupational health inequities among Hispanic people. The second project was a collaboration between VDS and CDC to provide Hispanic people with information about Zika virus infection and health education. The third project is a collaboration between MHUs and the University of Arizona to provide basic health services to Hispanic communities in Pima and Maricopa counties, Arizona. The VDS/MHU model uses a collaborative approach that should be further assessed to better understand its impact on both the US-born and non–US-born Hispanic population and the public at large in locations where it is implemented.

Keywords

culturally tailored partnerships, Hispanic, health inequities, institutional capacity building

An estimated 56.5 million Hispanic or Latino people (hereinafter, Hispanic people) live in the United States.[1] As of 2017, Hispanic people composed 17.6% of the US population, which is expected to increase to 25.5% of the US population by 2060.[1-3] Substantial social inequities exist between non-Hispanic White people and Hispanic people living in the United States, including higher levels of poverty and lower levels of educational attainment.[4-8] Hispanic people also have substantial health inequities, such as less access to health care and disease prevention services and lower rates of adult vaccination coverage, than the general US population.[6,9,10] Non–US-born Hispanic people generally

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Reaching the “hard to reach”: *Ventanillas de Salud*

- Turn analytical lens back on ourselves
  - “Hard to reach” vs. hardly reached
  - Reach workers with existing infrastructure
- Included 52 Mexican Consulates in the US
  - Serves 2+ million people annually
  - Health promotion
    - *49 Ventanillas de Salud* (Health Windows)
    - 11 Mobile Health Units
  - Additional resources
    - Knowledge is essential but not enough
    - Legal consultation

Tailoring and Evaluating Interventions

- Tailored intervention
  - Identified workers trying to reach (website & blog)
  - Tested existing models at VDS
- Developed multifaceted field study
  - Included 3 materials, 5 phases, 2 sites, control group
- Evaluated dissemination formats
  - Administered exit interviews (N=364)
    - Evaluated
      - Viewed materials
      - Trusted information
      - Attitude about safety
      - Behavioral intentions
    - Generally found effective
- Contributes to sustainable partnership

JOURNAL OF OCCUPATIONAL AND ENVIRONMENTAL HYGIENE
https://doi.org/10.1080/15459624.2021.1903014

Reaching "hard to reach" workers: Evaluating approaches to disseminate worker safety information via the Mexican consular network

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Common Pitfalls

- Focusing on accessible training methods
  - Safety knowledge and behavior modification
- Limited understanding of lived experience
  - Know your rights
    - Essential but not sufficient
  - Potential for unintended consequences
    - Immigrants and workers' comp
- Relying on uncritical models of culture
  - Explain or reinforce the inequities
    - "Hard to reach" vs hardly reached

Features

OCCUPATIONAL SAFETY AND HEALTH EDUCATION AND TRAINING FOR UNDERSERVED POPULATIONS

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DOI: 10.1002/ajim.22987

RESEARCH ARTICLE

WILEY AMERICAN JOURNAL OF INDUSTRIAL MEDICINE

Discourse on culture in research on immigrant and migrant workers' health

Stephanie Premji PhD

Moving Forward

- Recognize structural change is essential, but requires time
  - Need to address immediate hazards
- Treat workers as subjects of safety, not objects of training
  - Essentialized as "Superexploited"
    - Recognize agency
  - Recognize resilience and resistance
    - Not by the book
- Promote institutionnel support to mitigate structural exclusion
  - Recognize knowledge is essential, not sufficient
  - Improve access to resources
- Translation research
  - Evidence base on moving knowledge into practice

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COMMENTARY

WILEY AMERICAN JOURNAL OF INDUSTRIAL MEDICINE

Translation research in occupational safety and health: A proposed framework

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Translation research in occupational safety and health is the application of scientific investigative approaches to study how the outputs of basic and applied research can be effectively translated into practice and have an impact. This includes the study of the ways in which useful knowledge and interventions are disseminated, adopted, implemented, and institutionalized. In this paper, a 4-stage framework (Development, Testing, Institutionalization, and Evaluation) is presented. Translation research can be used to enhance the use and impact of occupational safety and health knowledge and interventions to protect workers. This type of research has not received much attention in the occupational safety and health field. However, in contemporary society, it is critical to know how to make an impact with the findings and outputs of basic and applied research. This paper provides a novel framework for consideration of how to advance and prioritize translation research for occupational safety and health.

KEYWORDS
dissemination, intervention, research-to-practice

1 | INTRODUCTION

The occupational safety and health (OSH) research field historically has focused more on the etiologic end of the research-to-practice (r2p) continuum than on the implementation and impact end.[1–4] This also has been the case in medicine and public health fields.[5–7] There has been a call to increase efforts to investigate factors that enhance or limit the development, transfer, and use of OSH risk factor and intervention information and technology, thus ensuring that these outputs lead to improvements in worker health.[1–4,8–13]

There is an extensive amount of OSH research and developed knowledge that is not applied. For example, much is known about the cause and prevention of occupational hearing loss, but it is still one of the most prevalent occupational illnesses.[14] Similarly, workers are still exposed to lead, one of the oldest known toxicants, at levels much higher than recommended.[15] The list of known but uncontrolled or inappropriately controlled hazards is long and growing, even though risk management techniques are known.[16–18] Consequently, there is value in studying factors that influence the uptake and use of new and extant research findings.

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Conclusion

- Health equity is a central element of a larger paradigm shift to a biosocial approach within OSH
- A cultural shift from individual concern for equity to an institutional commitment necessary
- Health equity expertise must be recognized, developed, and incorporated into OSH
  - Increase internal capacity
  - Expand external interest
  - Foreground social/equity perspective
- Immediate actions important as well as long-term commitment

Thank You

- OHE Team
  - Andrea Steege
  - Laura Syron
  - Jackie Siven
  - Pietra Check

- Upcoming presentations
  1. Inclusive research practices across OSH **(Aug. 3)**
  2. Connection between work and health inequities **(Nov. 2)**

Questions

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