

Presentation Title	Place in Schedule
<p>Total Worker Health approaches in healthcare settings: Insights from long-term care, acute care, and home care</p>	<p>Concurrent Session 1.3 <i>Day 2 – Wednesday</i> <i>May 9th, 2018</i> <i>1:00 – 2:15pm</i></p>
Description of Presentation	Presenter Name(s) And Credentials
<p>Paper #1: Relationships between employee and resident well-being in the long-term care sector Laura Punnett, Ernest Boakye-Dankwa, Bora Plaku-Alakbarova, Rebecca Gore, Erin Teeple, ProCare Research Team (with the Center for the Promotion of Health in the New England Workplace) Background: The shared environment of healthcare workers and their clients/patients has been increasingly recognized for its potential bi-directional effects on both groups. However, few studies have used empirical data to examine these complex relationships. Nursing homes maintain and report resident care and human resources data sets that offer rich opportunities for conducting integrated analyses of interactions among work organization and care quality. This study was undertaken to investigate potential relationships among employee and resident well-being in long-term care facilities. Methods: For the years 2003 to 2013, administrative data were obtained from a large U.S. nursing home corporation for a wide variety of facility characteristics (numbers of skilled nursing beds and occupancy levels, percentage of resident days paid from Medicare and Medicaid, specialty units, union representation); workforce characteristics (numbers of employees by job title, nursing staff retention rates, turnover in top management positions); workers' compensation claims; employee and resident satisfaction ratings obtained through a third party; and resident acuity (ADLs, cognitive impairment, enteral feeds, indwelling catheters) and adverse incidents (pressure-induced skin ulcers, falls, medically unexplained weight loss). We also obtained Centers for Medicare and Medicaid Services (CMS) Survey Ratings, Quality Ratings, and Staffing Ratings reports for each facility (2008 – 2012) from the federal</p>	<p>Erika L. Sabbath, ScD <i>Boston College</i></p> <p>Laura Punnett, ScD <i>University of Massachusetts Lowell</i></p> <p>Ryan Olson, PhD <i>Oregon Health and Sciences University</i></p>

government website, "Nursing Home Compare." A data set of center characteristics for 184 facilities was compiled for each year.

Two separate center-level analyses of these data were conducted. In one, we examined employee job satisfaction in relation to residents' satisfaction and adverse medical outcomes, for the period 2005-2009.

A separate effort used cluster analysis (nonhierarchical, K-means method) to examine a broader set of inter-relationships among organizational features, using data for 2012.

Results: Facility-level five-year average worker satisfaction was strongly correlated with resident satisfaction in the same time period. Worker satisfaction also showed a protective association with the annual rate of adverse resident outcomes, both before and after adjustment for nursing payroll per resident day (staffing level) and proportion of resident days reimbursed by Medicare or Medicaid.

In a separate study, we identified two mutually exclusive clusters which contained the full set of nursing homes. Compared with the 85 centers assigned to the lower-performing cluster, the 118 centers in the better-performing cluster averaged more nursing staff per resident and higher staff retention; lower workers' compensation claim rates; higher return-on-investment from a Safe Resident Handling Program; lower rates of adverse resident incidents; higher resident satisfaction; and higher CMS ratings.

Conclusions: Facilities with better worker safety outcomes, higher worker satisfaction and retention also had lower rates of adverse resident incidents, higher resident satisfaction, and higher ratings from CMS.

Long-term care facilities aim to support the health and well-being of their residents, but work organization, employee well-being and retention were demonstrated to have implications for service quality and cost of providing care. These findings suggest that policies that improve employee safety, health, and well-being may also have benefits for nursing home residents and highlight the need for further integrated analyses of patient and healthcare worker data sets.

Paper #2: Individual vulnerabilities, work organizational factors, and injury risk: A study of disparities in hospital patient care workers

Erika Sabbath, Dale Maglalang, Les Boden, Dean Hashimoto, Karen Hopcia, Greg Wagner, Glorian Sorensen (with the Harvard Center for Work, Health, and Wellbeing Center)

Statement of problem: The occupational health disparities literature has long recognized that certain groups of workers are at increased risk of illness and injury, but little research has focused on whether risk factors for occupational injury vary by worker characteristics, and whether there is heterogeneity of exposure-outcome associations by worker vulnerability factors in an observational setting. In the present study, we use baseline data from an acute-care hospital safe patient handling intervention to test whether a) workers with different vulnerabilities (race, immigrant status, occupational grade) had different perceptions of work organization and hazards around safe patient handling, and b) whether associations between safe patient handling risk factors and injury outcomes varied by worker vulnerabilities.

Methods: We used data from the Boston Hospital Workers Health Study (BHWHS), a database study of approximately 15,000 acute care hospital patient care workers, of whom we surveyed a subset in 2012 (n=1,543). Via survey, we assessed worker characteristics (including race, immigrant status, and occupational grade), perceptions of the work organization (ergonomic practices, self-efficacy around safe patient handling, people-oriented culture), work hazards (safe patient handling practices, unsafe patient handling practices, number of patient lifts per shift) and injury during the past year. Stratifying by different each type of worker vulnerability, we compared workers' perceptions of work organization and work hazards, and relationships between work organizational factors/hazards and injury.

Participant characteristics: The sample was 19% nonwhite, 15% foreign-born, and 8% low-wage (the three vulnerabilities of interest). 85% were women and 7% did not speak English at home.

Results: In models adjusted for age, gender, hospital site, and language spoken at home, nonwhite workers, immigrants, and low-wage workers all had greater odds of injury than their non-vulnerable counterparts. Next, we tested the extent to which work organizational factors and work hazards varied by vulnerability. For perceived workgroup ergonomic practices and for self-efficacy around safe patient handling (in which higher scores equaled better practices), nonwhite workers, foreign-born workers, and low-wage workers gave higher ratings than their non-vulnerable counterparts (all $p < 0.01$). However, vulnerable workers had more patient lifts per shift, on average. Among white workers, native-born workers, and high-wage workers, in models adjusted for age, gender, English spoken at home, and hospital site, good ergonomic practices and high people-oriented culture were significantly protective against injury. However, among nonwhite, foreign-born, and low-wage workers, these work organizational factors were not significantly associated with injury, either positively or negatively.

Practical implications and conclusions: Our counterintuitive findings present a natural question of whether the results are unique to this sample or whether certain measures of the work organization have heterogeneous psychometric properties in different subsets of workers. If the latter is the case, new measures and measurement methods to capture workplace policies, practices, and norms need to be developed to best capture the working experiences of a diverse workforce.

Paper #3: Protecting Workers in the Booming Home Care Industry: Workers' Experienced Job Demands, Resource Gaps, and Benefits following a Socially Supportive Intervention

Ryan Olson, Kelsey Parker, Linda Mabry, Jennifer Hess, Miguel Marino, and Sharon Thompson (with the Oregon Healthy Workforce Center)

The ongoing shift in population age demographics in the US is producing a parallel growing demand for home care services for the elderly. Home care workers (HCWs) are a vulnerable workforce exposed to

unique physical and psychological hazards, and in general, lack access to protective work programs and equipment. The COMMunity of Practice And Safety Support (COMPASS) program is a peer-led group intervention developed to address resource gaps for HCWs. COMPASS was developed and evaluated within the Oregon Healthy Workforce Center – a NIOSH Center of Excellence in Total Worker Health® (NIOSH grant# U19 OH010154). In a randomized controlled trial, COMPASS was demonstrated effective for enhancing workers’ professional support networks and producing many significant improvements in safety and health outcomes. However, quantitative findings fail to capture the uniquely emotional and stressful demands of the work, or exactly how the supportive intervention benefited workers. Long-term quantitative evaluation is also needed to estimate the durability of intervention effects and potential moderators of maintained improvements.

To investigate these issues, we conducted qualitative and quantitative follow-up research. Qualitative data from 26 semi-structured one-on-one interviews with participants from five COMPASS groups facilitated by the Oregon Home Care Commission were used to investigate participants’ personal experiences with job demands, resource inadequacies, and experienced benefits in the intervention.

Quantitative follow-up data were collected from participants in the randomized controlled trial 12 months after intervention completion from participants in both intervention and control groups. Interviews provided examples of unique physical and psychological demands, including stressful resource limitations such as inadequate safety equipment, training gaps, personal health care insurance insecurity, and an absence of a safety advocacy process. Interviews further clarified COMPASS’s role as a resource provider and confirmed the value of fostering supportive networking and collaborative communities of practice. Preliminary analyses of quantitative safety outcomes at follow-up indicated no statistically significant differences between intervention and control groups. Of the many moderate-to-large

significant intervention effects observed at earlier time points, only the frequency of “using new tools or techniques to make house cleaning safer or easier?” maintained a moderate effect size and approached significance at long-term follow-up ($d=0.43$, $p=0.068$). Preliminary analyses of health outcomes are in progress and will be presented. Tests of potential moderators of long-term intervention effectiveness are also planned, as well as mixed methods research to evaluate the differential qualitative experiences of intervention participants in the top and bottom quartiles for maintaining changes at long-term follow-up. In summary, qualitative data highlight resource gaps, challenges for home care workers, and the value of a supportive group program for this population as a job resource to advance safety, health, and wellbeing. Additional preliminary findings suggest that these isolated