the number of investigations and violations were estimated. Per capita rates of violations were calculated using population estimates from the American Community Survey, and described by CMS region.

Results: During the study period (11 years), CMS conducted 5,475 EMTALA investigations of which 2,382 (43%) resulted in at least one substantiated EMTALA violation. Overall, there has been a linear downward trend in the number of investigations during the study period from 686 in 2006 to 370 in 2014 (46% decrease). Violations, on the other hand, remained stable in the early part of the study period (2004-2009) but declined steadily from 245 violations in 2009 to 180 in 2014 (27%). In terms of service deficiencies, 62% of investigations involved medical emergencies (40% substantiated), 15% psychiatric emergencies (48% substantiated), 11% surgical emergencies (40% substantiated), 10% trauma-related emergencies (47% substantiated) and 7% labor-related emergencies (63% substantiated). Finally, during the study period, there was substantial regional variation (>7 fold) in both investigations and substantiated violations. Nationally, there were 7.70 violations per 1 million residents but this ranged from 2.66 per 1 million in CMS region II (New York office) to 19.76 in CMS region VII (Midwest-Kansas City office).

Conclusion: We report the first national estimates of EMTALA enforcement activities in at least 15 years and generally note that despite large regional variation in investigations and violations, the general trend is toward fewer CMS investigations and fewer substantiated violations, particularly since 2009. Future research should focus on whether this downward trend reflects improvement in emergency care or diminishing enforcement efforts.

## 182 Assessing Economic and Health Care Access Social Determinants of Health in the Emergency Department

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Study Objectives: No studies to date have examined the presence of social determinants of health (SDH) in vulnerable patients using the emergency department (ED). In this study, we evaluate the prevalence of health care access and economic SDH present in vulnerable populations using the ED.

Methods: This was a cross-sectional study, developed through a community-academic partnership. Patients with public (Medicaid/Medicare) or no insurance, aged 18-80 years presenting to a large, urban, academic ED were eligible to participate in the survey study. We excluded patients who were: pregnant, incarcerated, unable to consent, or required a 1:1 sitter. Thirteen trained student patient navigators (SPNs) screened the ED electronic health records for eligible patients between the hours of 11 AM-5 PM, 7 days a week, from June to August of 2014. SPNs administered surveys in person in the ED to consenting patients. Patients who completed the survey were eligible to enter a gift card drawing of $100 and received patient navigation at no cost. Participants were asked about social determinants, such as health care access (eg, lack of primary care, inability to get appointments) and economic determinants (eg, lack of housing, food), as defined by the Healthy People of 2020. Our outcome of interest was having $\geq$ 1 SDH. We assessed the association between patient characteristics and presence of $\geq$ 1 SDH using a multivariate logistic regression analysis.

Results: Four hundred fifty-four of 646 patients agreed to complete the survey (70% response rate). Among respondents, the mean age was 42 years, 246 (54.2%) were females, and 279 (61.5%) of patients had one or more chronic diseases. Eight-nine percent of patients described having $\geq$ 1 SDH (Figure 1). Notably, when compared with those who have Medicaid insurance, those who are uninsured were less likely to suffer from $\geq$ 1 SDH (OR 0.23; 95% CI 0.09-0.60). Those with a mental health co-morbidity were more likely to suffer from $\geq$ 1 SDH (OR 3.60; 95% CI 1.24-10.40) when compared with those who don't have a mental health co-morbidity. Finally, individuals who frequently use the ED ($\geq$ 4 visits/year) were more likely to suffer from $\geq$ 1 SDH (OR 9.34; 95% CI 2.01-43.53) when compared with those who are non-frequent ED users.

Conclusion: A large proportion of under-insured and uninsured patients suffer from $\geq$ 1 SDH. These SDH appear to be linked to frequency of ED usage, insurance type, and mental health status. EDs should attempt to help these individuals in overcoming these social determinants, in order to improve their health outcomes, and thus decrease health inequities and avoidable ED utilization.

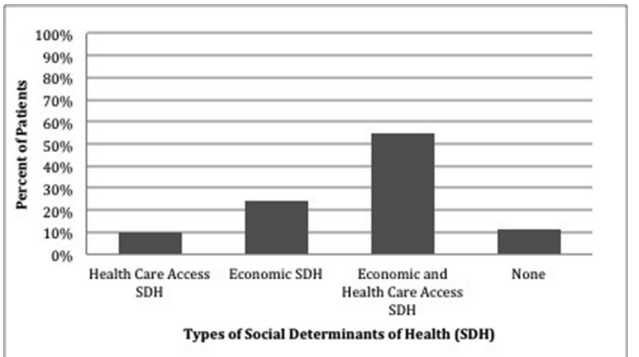


Figure 1: ED patients sorted by Social Determinants of Health

## 183 The Affordable Care Act: Disparities in Emergency Department Use for Mental Health Diagnoses in Young Adults

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Study Objectives: Young adults have high levels of mental health needs but often lack health insurance. Recent health reforms have increased coverage, but it is unclear how this has effected psychiatric emergency department (ED) visit rates for each sex and various racial subgroups. In 2010, the Affordable Care Act (ACA) required insurers to permit children to remain on parental policies until age 26 as dependents. This study estimated the association between the dependent coverage provision and changes in young adults' usage of (ED) services for psychiatric diagnoses.

Methods: Quasi-Experimental analysis of emergency department use in California from 2009-2011 encompassing 280,798 visits with a behavioral health diagnosis for individuals aged 19 to 31 years old. Analyses used a difference-in-differences approach comparing those targeted by the ACA dependent provision (19- to 25-year-olds) and those who were not (27- to 31-year-olds), evaluating changes in ED visit rates per 1,000 in California. Primary outcome measures included the quarterly ED visit rates with any psychiatric diagnosis, with subgroup analysis looking at the effects of race (white, black, Hispanic, Native American, Asian/Pacific Islander, mixed/other) and sex on the primary outcome.

Results: The young adult dependent provision was associated with 0.05 per 1,000 people ($P < .001$) fewer psychiatric ED visits among 19 to 25-year-olds compared to 27 to 31-year-olds. However, this significant reduction in psychiatric ED visits was not seen in males, Hispanics, Asians or Pacific Islanders. Furthermore, Hispanics, Asians, and Pacific Islanders were the only racial subgroups that did not see significant gains in the proportion of psychiatric ED visits covered by private insurance.

Conclusion: The young adult dependent provision was associated with a modest reduction in ED use for psychiatric purposes; however, racial disparities in the effect of this provision appear to exist for Hispanics, Asians, and Pacific Islanders.

## 184 Racial Disparities in the Frequency of Workplace Injuries

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Study Objectives: Workplace injuries are a significant public health concern, and are known to lead to significant health care costs and productivity losses for millions of people each year. While it has been well established that there are significant disparities in health and economic opportunities across racial and ethnic divides, it is unknown whether minorities are more or less subject to workplace injury risk.

Methods: This study used retrospective data on survey respondents age 18-64 from the 1996, 2001, 2004, and 2008 panels of the Survey of Income and Program Participation (SIPP) published by the US Census Bureau. The SIPP is a

national survey including data on demographics, labor market outcomes, disability status and cause of disability. We recorded data on self-reported health conditions limiting the type or amount of work and whether those conditions were reportedly due to work-related injuries. Additionally, we recorded whether the individual reported any workers' compensation income in the survey month. Because work-related injuries are dependent on employment, and there are known differences across racial groups in terms of employment outcomes, we estimated differences in injury frequency conditional on work exposure. Exposure was defined as years of potential work, based on the time from the survey year compared to the year in which respondents first worked six consecutive months or more. We used logistic regression to estimate the frequency of workplace injuries for whites, blacks, Hispanic and Latinos, and other racial groups conditional on age, sex, education and potential work exposure. We compared predicted injury risk for each racial group according to years of exposure holding other covariates at their mean values.

Results: There were 221,403 respondents in the study sample, of which 25,829 (11.7%) reported any disability, 3,635 (1.6%) reported a disability from a work-related injury and 1,029 (0.5%) reported receiving workers' compensation benefits. Blacks were most likely to experience any disability (17.0%) and a disability due to a work-related injury (2.0%) (Figure 1). Hispanics were least likely to have a disability from work-related injury but most likely to receive workers' compensation benefits. Adjusting for years of potential exposure, the injury risk was similar for all races at low level of exposure, but increased more for minorities as exposure increased (Figure 2).

Conclusions: There are significant differences in the frequency of disabling workplace injuries and workers' compensation benefit receipt across racial and ethnic groups. More work is needed to understand the reasons why workplace injury risk differs across racial groups, and to understand how differences in workplace injury risk contribute to the observed economic and health disparities.

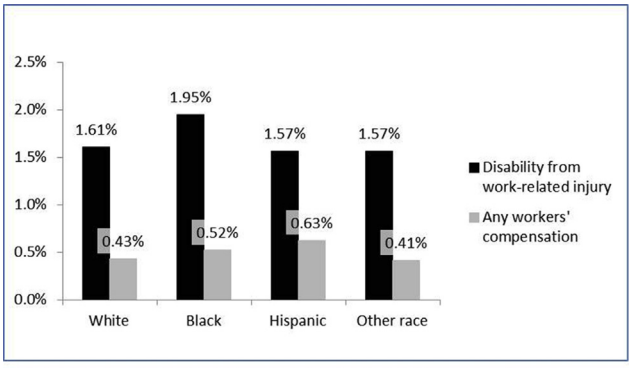


**Figure 1.** Unadjusted average prevalence of disability from work-related injury and workers' compensation receipt by race and ethnicity

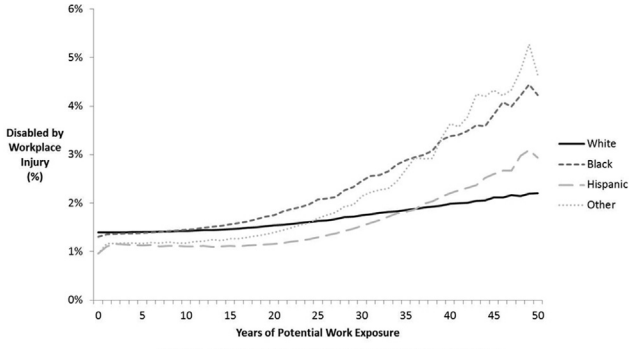


**Figure 2.** Adjusted probability of disability from work-related injury by race and years of potential work exposure

## 185 A Community Health Worker Intervention for Emergency Department Super-Utilizers

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Study Objectives: Many hospitals are now utilizing community health workers (CHWs) to visit discharged patients and assist them in obtaining basic services, prescription refills and transportation to outpatient appointments. Our primary aim is to investigate the impact of a CHW assigned to frequent emergency department (ED) utilizers on the pattern of health care utilization, and to best identify the patients who may benefit from CHW services.

Methods: At our large urban academic center with approximately 85,000 adult ED visits annually, we retrospectively analyzed the utilization (ED visits, inpatient visits, length of stay), diagnoses, and demographic data of all patients referred to one CHW from either ED or inpatient case managers. In order to identify specific subpopulations of patients, cluster analyses were performed using utilization variables (ED visits and Inpatient visits within a 2-year period). In order to evaluate the impact of CHW intervention on utilization we used a before-after (pre-post) study design. A peristimulus locked histogram aligned to the first contact time (CHW contacting patient) was used to compare 60 days before to 60 days after CHW intervention, with regard to ED visits and inpatient days.

Results: The study cohort contains a total of 75 patients evaluated over a 2.33-year period, with an average of 14.55 ED visits (ranging from 1-77), 8.39 inpatient visits (ranging from 0-44), and an average admission index (admissions/admissions + ED visits) of 0.43 (ranging from 0-0.86). Our cluster analyses yielded 5 distinct subpopulations of high-utilizing patients with different utilization, demographic, and diagnostic profiles. For example, our largest cluster had 43 patients, had the smallest average Admission Index (0.36), had the smallest average total hospital days (11.30), had a most frequent diagnosis of HTN, and had an average age of 59 years old. The most adjacent cluster had 13 patients, with an Admission Index of 0.49, an average total hospital days of 32, most frequent diagnoses included DM and pulmonary disease, and an average age of 63 years old. Across all patients, the cumulative sum of ED visits before and after intervention (60 days before and after) was 180 visits before versus 125 visits after intervention (Kolmogorov-Smirnov test; $P = .02$). The cumulative number of inpatient days before and after intervention was 380 days before vs 210 days after intervention ($P = .01$).

Conclusions: Our study suggests that high utilization of ED and inpatient services in an urban setting could be minimized by improving health system navigation using a community health worker. Moreover, the rate of utilization can be decreased by attending to the logistics of patients' specific social and health needs.

## 186 The Use of TeleSurgical Consultation to Expand Access to Acute Surgical Care: A Pilot Trial of Feasibility

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Study Objectives: Access to on-call specialists has become a major concern in the treatment of emergency department (ED) patients with acute surgical issues. Telemedicine has been demonstrated to improve access to some sub-specialty providers, but use for acute general surgical disease states is not well studied. In this pilot study, we examined the use of telemedicine to provide emergency surgical service (ESS) consultation for ED patients with the hypothesis that plans derived from physical and virtual consultation would show a high degree of concordance.

Methods: We performed a convenience sample of ESS consults over a 3-month period at an urban academic medical center. Inclusion criteria were age >18 and indication for ESS consult. After informed consent, a telemedicine cart capable of