Utilization of Acupuncture Services in the Emergency Department Setting: A Quality Improvement Study

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Methods: Annual BMI screening data and health insurance claims costs were analyzed using a multiple regression model to examine overall weight loss, BMI shift, and health insurance claims costs pre- and post-weight loss program participation.

Results: Over 60 tons of excess weight loss in first 5 years (2013–2017). A multiple regression model shows claims costs go down $20 for every 1 pound decrease in weight. Mean medical claims costs dropped by $3535 for the year after participation in one specific weight loss program when compared to prior-year costs. Pharmacy claims did not show a reduction from pre- to postprogram periods.

Conclusion: This research shows some support for the interventions targeting obesity in a workplace setting and the idea that weight loss results in lower health care costs.

Reimagining Solidarity to Confront Infant Mortality
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Background: In Milwaukee, black babies die nearly three times as often as white babies, and black women experience stillbirth two and a half times more often than white women. There are many contributors to this reality. While parental responsibility is one factor, deeper, more systemic issues related to racial inequality and class privilege are also at play. Even among groups with similar socioeconomic status, racial disparities in infant mortality persist.

Purpose: This project seeks to answer multiple research questions, foremost: How do socioeconomic and racial/ethnic factors relate to infant mortality in the concrete lives of black women in Milwaukee?

Methods: This research draws from ethnographic fieldwork as a type of qualitative method that puts Milwaukee women in conversation with those professionals who work to end racial disparities in infant mortality. Ethnography is a method that seeks to listen to particular persons from within their cultural milieu to better understand their values, beliefs, and practices and learn from them about matters that carry moral meaning. The type of triangulation common to ethnography, in which researchers integrate ethnographic interviews, quantitative studies, and ethical analysis, has been argued to be especially fitting to the goals of medicine. Collaborators for this project included 3 Milwaukee mothers; 5 church support group leaders, 3 of whom are nurses; 3 public health personnel; and 2 physicians.

Results: Analysis of interview recordings and transcripts uncovered 3 themes related to women and infant health: violence and stress; social hierarchy and “feeling less than;” and faith and resiliency. Women’s experiences of violence and stress provide particular instances that mirror statistical connections in the literature between stress and premature birth. Stories of feeling “less than” in health care situations point to data concerning racial health disparities in care quality and outcomes. Women practice faith and resiliency amid adversity to help overcome some of these barriers. The insights of these collaborators may prove helpful in redirecting efforts to improve racial disparities in infant mortality.

Conclusion: Those responsible for efforts to reducing racial disparities in infant mortality can learn important lessons from the experiences of black women in Milwaukee. Health care professionals in particular should learn from these experiences to inform how they can revise and implement strategies to reduce infant mortality.

Monitoring Lead Screening Within a Milwaukee Family Medicine Residency Clinic
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Background: Lead screenings, as part of a child’s preventive examinations, are offered by many Women, Infants, and Children (WIC) clinics in the Milwaukee area. Previously, the Family Care Center (FCC) at Aurora Sinai Medical Center (Milwaukee, WI) did not have access to lead screenings performed by WIC clinics and later recorded in the Wisconsin Blood Lead Registry (WBLR). Therefore, unnecessary duplicate screenings may have occurred on children seen at FCC for their preventive exams.

Purpose: To determine if children were undergoing unnecessary duplicate lead screenings at FCC.

Methods: We conducted a retrospective review of lead screenings performed at well-child exams in children 1–5 years of age at FCC from March 2017 to August 2017. We reviewed FCC patients in the WBLR, gathering additional lead screening information, noting that lead levels were often reported to nearest whole number. Screenings performed less than 6 months apart in children age 12–24 months and less than 12 months apart in children age 2–5 years were considered duplicate lead screens. Basic descriptive statistics were calculated. Categorical data were analyzed using chi-squared tests and continuous variables with 2-sample t-tests or nonparametric alternative tests. Stepwise regression and binary logistic regression was used for multivariable analysis as appropriate.

Results: A total of 500 children with elevated blood lead levels and required repeat testing, 161 were included in our analysis. Children of mean age 1.8 years were more likely to be female (54.0%) and African American (70.2%). Of children with at least 1 ordered lead test, 39% were not completed; mean first lead level result was 2.4. Only 20 (12.4%) had duplicate lead screenings ordered, of which 12 (60.0%) were ordered inappropriately (ie, ordered as a duplicate), with 9 (75.0%) being ordered by FCC. Interestingly, on univariable analysis, higher lead levels were significantly associated with male gender (3.2 vs 1.8; P=0.022) and Asian race (4.6 vs 2.1 for all other races; P=0.04). On multivariable analysis, when including age, only Asian race remained significantly associated with higher lead levels (P=0.002).

Conclusion: Inappropriate lead tests were more commonly ordered at FCC. With access to the WBLR, we can determine if patients have had lead levels drawn at outside facilities and eliminate unnecessary duplicate tests. To further aid in decreasing the number of inappropriately ordered tests, we developed a workflow for clinic medical assistants to check blood lead screening and will conduct a 6-month postintervention analysis.

Utilization of Acupuncture Services in the Emergency Department Setting: A Quality Improvement Study
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Background: Patients often present to the emergency department (ED) for pain. As opioid fatalities rise, alternative treatments in the ED are warranted for pain management. Acupuncture, a nonpharmacological treatment involving the insertion of needles into skin or tissue at specific points within the body, may help to decrease acute pain experienced by patients seeking ED services.

Purpose: To assess the utilization and impact of acupuncture in the ED setting for pain management.

Methods: We conducted a prospectively designed and retrospectively reviewed quality improvement study. Patients ≥ 18 years old who presented to the Aurora West Allis Medical Center ED (West Allis, WI) during 2017 were offered acupuncture services from an acupuncturist based on their emergency severity index score (highest severity [1] – lowest severity [5]), reason for visit, and, ultimately, their physican’s recommendation. Charts were further reviewed for other demographic and visit characteristics. Demographic characteristics were described using basic summary statistics. Wilcoxon signed-rank tests were used to determine differences in pre- and postacupuncture pain, stress, anxiety, and nausea scores (ie, no pain [0] – worst pain [10]).

Results: A total of 379 patients, mean age 47.5 years and mean body mass index 30.8 kg/m², received acupuncture services. Patients were predominately female (68.1%) and non-Hispanic white (77.0%) and presented with an emergency severity index score of 3 (68.9%) or 4 (24.8%). Following enrollment, patients had 8–15 needles placed (86.0%) and received either 20 or 30 minutes of needle time (92.6%). Median pre- and postacupuncture pain (7.0 vs 3.0), stress (7.0 vs 0.0), and anxiety (5.0 vs 0.0) scores were significantly different (P<0.001). Differences in median pre- and postacupuncture nausea scores were not significantly different, as most patients reported no nausea preacupuncture (70.7%). Overall, patients mean length of stay in the ED was 194 minutes, with 10.6% of patients admitted to the hospital. Only 2.1% of patients presented to the ED twice within 24 hours, and none received acupuncture services more than once. Following discharge from the ED, <2% received acupuncture services within 30 days.

Conclusion: Patients admitted to the ED experienced significant decreases in pain, stress, and anxiety. It is unknown whether this decrease was due to acupuncture therapy and not the synergy between opioid and acupuncture use. Ultimately, while further study is warranted, acupuncture may be an alternative treatment to opioid use during the ED admission.

Enhancing Immunization Rates at Aurora Family Medicine Clinics in Milwaukee, Wisconsin

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Background: In the United States, only 72.2% of children (age 19–35 months) are up-to-date on all of their immunizations. This rate is even lower for children from impoverished households (68.7%). Lack of encouragement by providers, as well as parent perceptions of vaccine safety and efficacy, have been cited as some of the reasons for lower vaccination rates.

Purpose: Our study aimed to collect and compare patient demographic data to age appropriate and comorbidity-specific vaccination rates.

Methods: We conducted a quality improvement study at Family Practice Center (Aurora St. Luke’s Medical Center, Milwaukee, WI) and Family Care Center (Aurora Sinai Medical Center, Milwaukee, WI). Patients who were seen by either a PGY-2 or PGY-3 resident provider from July 2017 to September 2017 were included. Charts were randomly selected and reviewed. Using Minitab, one-way ANOVAs were generated for multivariable data, Fisher’s exact tests were used for 2 x 2 tables, and binary logistic regression was used for vaccine completion outcomes. A P-value less than 0.05 was used to determine statistical significance.

Results: A total of 872 patients were reviewed, of which 59.3% were female, 45.7% were African American, 11.0% were refugees, and 61.0% were insured by Medicaid. Of the comorbidities studied, the most prevalent were heart/lung disease (36.9%, n=322), liver disease (4.9%, n=43), and diabetes (15.7%, n=137). Overall vaccination rates were found to be higher than national averages for children 19–35 months old (85.7% [n=28] vs 72.2% nationally). Adults ≥ 65 years of age also had higher rates of pneumococcal polysaccharide vaccine (PPSV23) immunizations (77.8% [n=90] vs 63.6% nationally). Differing rates of PPSV23 were seen for those suffering from heart/lung disease (47.2%), liver disease (39.5%), and diabetes (68.6%). Also, differing rates for hepatitis B vaccination were seen among those with liver disease (41.9%) and diabetes (26.6%). The following groups of patients had higher rates of missed opportunities: Medicare patients (P<0.001), Caucasian patients (P<0.001), and patients at Family Practice Center (P=0.043). A greater percentage of individuals were up-to-date on the adult dose of tetanus, diptheria, and pertussis (Tdap), hepatitis B, and human papillomavirus (HPV) vaccines at Family Practice Center versus Family Care Center.

Conclusion: Baseline immunization rates at Aurora’s family medicine clinics in Milwaukee, Wisconsin, are higher than national averages. However, these rates significantly differed between clinics. Analysis of postintervention data, collected following 3 lectures given to nurses and medical assistants, will be carried out to determine the effects of the educational intervention on immunization rates.

Refugees in Milwaukee: Demographic and Health-Related Characteristics Post-Immediate Resettlement

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Background: Since 2002, more than 13,000 refugees have resettled in Wisconsin, with two-thirds of that population residing in the city of Milwaukee.

Purpose: To explore the demographic and health-related characteristics of a growing and dynamic refugee population in Milwaukee.

Methods: We conducted a retrospective chart review of 122 established refugee patients at two family medicine residency clinics.

Results: Of the initial 268 patients who underwent the initial refugee examination, 122 (mean age: 26 years; gender: 54.0% male, 45.9% female) established care with a provider at one of the two studied primary care clinics at least 8 months after their