Example 1

Does the use of an electronic health record alert detailing past 24-hour pain medication usage affect opioid prescription after vaginal and cesarean delivery at the time of discharge?

Authors: A, B, C, D


This 7-page nationwide retrospective cohort study of commercially insured individuals focused on women who underwent vaginal delivery and were not on opioid analgesics for at least 12 weeks before the delivery admission. The study was conducted between 2005 and 2012. These investigators found that among a cohort of over 1.3 million women undergoing vaginal delivery, 28.5% were dispensed an opioid within one week of discharge. This information will be incredibly useful due to its high statistical power and comparability to our quality improvement data. In addition, one data point that we intend to capture in patient charts is whether or not an additional procedure (operative vaginal delivery) was performed and whether that has an effect on opioid prescriptions. This study also captured this information and found that, while these procedures may be associated with increased pain, they accounted for less than one fifth of the cases where opioids were dispensed. This journal has an impact factor of 4.9, making it a moderately cited journal and a strong resource for our project. There are multiple potential conflicts of interest in this study. First, one of the authors receives salary support from the North American AED Pregnancy Registry. Also, several of the authors are investigators on studies with grants from large pharmaceutical companies like GSK, Pfizer, and Lilly.
Example 2

How can the participation and retention in a physical activity program at the XYZ County Department of Health be increased?

Authors: E, F, D


This twelve-page peer-reviewed article was an interdisciplinary effort, with the five authors representing the Department of Psychology, Department of Health Sciences, School of Social Work, and Institute for Aging Research at their respective universities. The creators reported no conflicts of interest, and the work was funded by the National Institute on Aging for the Boston Roybal Center for Active Lifestyle Interventions. The objective of this paper was to lay out a framework of low-cost motivational and behavioral strategies in order to increase physical activity in sedentary middle-aged and older adults. Their concept was to create a personalized approach to stimulate motivation in the participants that then brings forth behavioral modifications. The motivation was generated by visualizing the physical activity as a lifestyle change, a means to a new possible self (e.g., “I will be physically fit”), or as an aspect of the current self (e.g., “I am an active person”). This tailored approach included components of social support, goal setting on an individual basis, fostering a positive attitude, and eliminating negative and self-defeating thoughts. We selected this article to help answer our question because it demonstrates viable recommendations on how to structure a program to increase participation and retention in a low-cost way through focusing on each person’s intrinsic motivation. It also has a particularly useful “Targets and Strategies” section, where it outlines specific features that an exercise program should have with instructions on how to incorporate that principle. However, the significant issue with this paper is that it is an outline of a program, and they have not tested it on a group of subjects to demonstrate its efficacy. Hence, while they do cite other scholarly, peer-reviewed articles as their evidence, they lack quantitative results that emphatically prove the accuracy of their conclusions.
Example 3

Does Raising Awareness of the Tdap Vaccine Increase Uptake of Vaccinations in Mothers and Close Contacts of Newborns?

Authors: L, M, N, O, P


This is an eight-page exploratory second-part study by ten authors from Emory University in Atlanta, Georgia. This study was funded by a grant from the Centers for Disease Control and Prevention (CDC) to the Emory Preparedness and Emergency Response Research Center and was conducted after completion of the MOMVAX study which was a cluster-randomized trial conducted in Georgia during 2012-2013 evaluating the effectiveness of a multi-component vaccine promotion package to improve influenza and Tdap vaccinations during the antenatal period. The only possible conflict of interest was for Dr. Kevin Ault who has consulted on maternal immunization with the CDC and other national organizations. The primary study looked at the likelihood of vaccination in the study group. This secondary study looked at changes in knowledge, attitudes, and beliefs among these groups by using a follow-up questionnaire which was completed by 277 of the original 325 participants (a small sample size). It concluded that there was no significant effect on pregnant women’s knowledge, attitudes, or beliefs despite interventional efforts. Importantly, while women understood how severely infections such as influenza and pertussis could affect themselves and their infants, more than 60% of respondents were hesitant about receiving antenatal vaccinations and 70% perceived the influenza vaccine as risky or unsure of its safety. The authors provided theories as to results of the questionnaire which we can take into account for our project. We are attempting to intervene with a promotional voucher for free vaccination along with educational materials stressing vaccination importance during the newborn period in pediatric clinics in hopes of increasing vaccination rates among mothers and close contacts via the “cocooning” effect. Knowing about women’s antenatal hesitancy, we may be able to increase vaccinations rates from the standpoint that mothers may feel safer now that the perceived unknown risk has been removed.
Example 4

Does the use of the Surviving Sepsis Campaign 1 Hour Bundle Guideline used in patients with sepsis in the Emergency Department effect mortality rates?

Authors: J, K, L, M


This 8 page article was an IRB approved multi-center (public hospitals in Los Angeles County, CA), retrospective, observational study examining records of 4582 patients ≥ 18 years of age who presented to the ED with sepsis or septic shock and had suspected or confirmed infection or met SIRS criteria with evidence of end organ dysfunction or were declared septic in the inpatient setting based on ICD 9 discharge diagnosis of severe sepsis or septic shock. The authors credentials (members of the county Health Department and USC Medical Center Emergency Department) appear to qualify them to conduct this study. They declared no conflicts of interests and no funding. The 2012 Surviving Sepsis Campaign protocol for bundle administration was implemented. From January 2012 through December 2014, bundle adherence was examined and tracked with regard to mortality rates and whether location of declaration of sepsis (ED vs Wards vs ICU) and the source of infection affected bundle adherence and mortality. 75% of the patients met criteria in the ED, 9.6% in the ICU, and 14.8% on the ward. Main sources of infection included pneumonia 32.6% and UTI 20.3%. Overall mortality was 18.9% and bundle compliance was 60.1%. Regardless of the source of infection, mortality with bundle adherence was 17.9% compared to 20.4% mortality without adherence. There was a 7% absolute decrease in mortality in the ICU compared to the ED and the Wards where there was no improvement in mortality. Differentiating factors from our study include that this was completed at a large urban medical center where patients are of lower socioeconomic status, there are longer ED wait times, and preventative care is a minimum causing patients to possibly present to the hospital with a more advanced disease course than we would see in our private community hospital. Additionally, we are reviewing one-hour bundle adherence in the ED with patients meeting similar criteria and the effect on mortality, but the fact that 75% of study patients were diagnosed in the ED may heighten the significance of our outcomes.