

Video v. Pamphlet Education in Encouraging Take-home Naloxone

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Introduction

The opioid epidemic is worsening. Nationally, the rate of overdose deaths increased 9.6% from 2016 to 2017 (CDC, 2019). Today more than 130 people in the United States die after overdosing on opioids. (NIDA, 2019) In addition to the millions of Americans with opioid related disorders, many more patients are seen by the health care system for nonfatal overdoses and other opioid related complications. While the emotional consequences of the epidemic are incalculable, the CDC estimates the economic burden of prescription opioid misuse tops \$78.5 billion a year in healthcare, lost productivity, addiction treatment and criminal justice involvement. (NIDA, 2019) Arizona has experienced a parallel increase in opioid overdose with 25,732 suspected opioid overdoses, 3,546 resulting in death over the last 2 years (ADHS, 2019). Compared to other states, however, Arizona's efforts to address the opioid crisis have been delayed. In the spring of 2016 an Arizona law was passed to protect clinicians and pharmacists in prescribing and dispensing naloxone, followed by legislation in mid 2017 requiring utilization of standing order for pharmacy dispensation of naloxone (Sonoran Prevention Works, 2019). In response to new legislation, physicians and pharmacists in the Adult Emergency Department (AED) at Maricopa Integrated Health System (MIHS) implemented an opioid education and naloxone distribution (OEND) program which includes a free naloxone kit from our outpatient pharmacy. Due to Arizona pharmacy regulation (R4-23-407.1.), naloxone kits cannot be distributed directly from the ED. (Arizona Board of Pharmacists, 2016) While small in scale, our hospital-based naloxone education and distribution program is the first of its kind in the state of Arizona, initiated in partnership with Sonoran Prevention Works, a grassroots community organization.

Objectives

1. Design and implementation of AZ's first hospital-based naloxone distribution program
2. Comparison of video education and pamphlet education regarding fill rates for take-home naloxone prescriptions

Study Design

This is a prospective, randomized controlled pilot study of adult patients seen in the MIHS Adult Emergency Department. Rates for epinephrine auto injector prescription were used as a model in this calculation as both are life saving antidotes with intramuscular preparations.

Eligible adults included :

- patients evaluated and treated for possible opioid intoxication/poisoning
- use of illicit opioids or prescription opioids
- opioid injection use related conditions as determined by ED provider or research associate.

Study participants were given a prescription for a naloxone kit at the time of discharge that could only be filled at the MIHS outpatient pharmacy. MIHS Outpatient Pharmacy recorded all patients who filled their prescription for a naloxone kit. All subjects were called at 3 months to determine if the naloxone prescription was filled (if applicable), if it was used, and if it was used successfully.

Results

Of the 769 patients screened, 702 were excluded from study. Common reasons for exclusion include: patients admitted to the hospital (108) and patients deemed poor candidates for naloxone by providers (21). Of the 67 patients enrolled, four withdrew consent and eighteen (28%) filled a naloxone prescription. Thirty-two percent (13/41) of patients who received video education and 23% (5/22) who received written pamphlet education filled naloxone prescriptions. Patients who received video education were 1.4 times more likely to fill their naloxone prescription ($p=0.654$).

	Filled	Not Filled	Total	Percentage of Patients Who Filled Naloxone Prescriptions
Video	13	28	41	32%
Pamphlet	5	17	22	23%
Total	18	45	63	29%

Discussion

Participants in the video education group were 1.4 times more likely to fill their prescription for naloxone than those who received education by pamphlet. Although these differences were not statistically significant, they suggest video education as a potentially more engaging, more compelling method of patient education. The fill rates in our pilot study demonstrate a much lower prescription fill rate than those demonstrated among the general population of patients discharge from the emergency department. Fill rates for naloxone (29%) in our study were fraction of fill rates for epinephrine auto injector prescriptions (86%) in a study of patients using Medicaid (Owusu-Ansah et. al., 2019).

Despite a large at-risk population at Maricopa Medical Center, a safety net hospital, enrollment our naloxone program was limited. Anecdotal evaluation of our program revealed that patients often refused naloxone prescription, not recognizing or not accepting their risk for opioid overdose when approached by research associates. Additionally, despite basic education about opioids and treatment for opioid related disorders, program evaluation suggests providers regularly failed to identify patients at risk for an opioid overdose.

Additional research needs to be completed to ascertain barriers specific to patients suffering from opioid use disorder in being identified by providers, in accepting naloxone prescriptions and also in filling and using naloxone to prevent opioid overdose.

References

1. Arizona State Board of Pharmacy. Permits and Distribution of Drugs. Arizona Administrative Code 2016; 84-23-407.1.
2. CDC/NCHS. National Vital Statistics System, Mortality. CDC WONDER (National Institute on Drug Abuse web site). January 2019. Available at: <https://www.floridabureau.gov/files/abuse/record/opioid-overdose-cdc>
3. Center for Disease Control, National Center for Injury Prevention and Control. Drug Overdose Deaths [CDC Opioid Overdose web site]. June 27, 2019. Available at: <https://www.cdc.gov/drugoverdose/data/overdose.html>
4. Farris B, Shakowski C, Mueller S, Phong S, Kiser T, Jacklin G. Patient nonadherence to filling discharge medication prescriptions from the emergency department: Barriers and clinical implications. Am J Health Systems Pharmacy 2018; Vol 75: 316-320
5. Hernandez T, Nguyen D, Baraff L. Effect of Electronically Delivered Prescription on Compliance and Pharmacy Wait Time Among Emergency Department Patients. Ann Emergency Medicine 2012; Vol 59:102-105.
6. Pharmacist Naloxone Dispensing Guide, Sonoran Prevention Works [Arizona State Board of Pharmacy web site]. August 18, 2017. Available at: <https://pharmacist.com.ar/sites/default/files/documents/files/Pharmacist%20Naloxone%20Guide.pdf>. Accessed August 30, 2019

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