



Naloxone Counseling for Harm Reduction and Patient Engagement

Jonathan K. Han, MD; Lucas G. Hill, PharmD; Marianne E. Koenig, PharmD; Niladri Das, MD

BACKGROUND AND OBJECTIVES: The United States is experiencing an epidemic of opioid-related deaths. Naloxone, the drug of choice for reversing acute opioid overdose, is not routinely prescribed for outpatient use. The aims of this project were to improve naloxone awareness, increase naloxone prescribing, and prevent opioid overdoses.

METHODS: A naloxone counseling intervention was implemented in three family health centers by an interprofessional team of providers including family medicine physicians, clinical pharmacists, and social workers. An outreach letter was designed with provider input, an electronic order set was developed to facilitate prescribing, and intranasal naloxone kits were assembled for free dispensing. Providers and staff received education about opioid overdose and naloxone prescribing. Faculty and resident physicians were surveyed before and after the intervention to assess their attitudes. Patients who received naloxone kits were surveyed to assess their attitudes and use of opioids and naloxone.

RESULTS: Over 16 months, 71 outreach letters were distributed and 97 naloxone kits were dispensed. The majority of kits were prescribed for illicit opioid use. Faculty and resident physician surveys indicated improved knowledge about naloxone prescribing, and increased professional satisfaction caring for patients requesting opioids. Surveyed patients endorsed high levels of comfort discussing opioid use with their primary care physician. Five successful opioid overdose reversals were reported.

CONCLUSIONS: An interprofessional naloxone counseling intervention engaged patients in opioid use discussions, increased provider satisfaction, and reversed overdoses. Improving naloxone access is an essential component of comprehensive overdose prevention programs that encourage responsible opioid prescribing and use.

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Expanding access to naloxone, the drug of choice for reversing acute overdose, has been shown to improve outcomes in many communities.⁴⁻⁷ However, a recent survey of primary care providers demonstrated only 33% recalled receiving education about the use of take-home naloxone, and only 8% had ever prescribed it.⁸

The University of Pittsburgh Medical Center (UPMC) St Margaret Family Medicine Residency Program, located in Pittsburgh, Pennsylvania, comprises 36 family medicine residents, 5 physician fellows, 10 pharmacy residents, 4 social workers, and a complement of 22 faculty members. The three family health centers (FHCs) associated with UPMC St Margaret community hospital are all designated Level 3 Patient-Centered Medical Homes. Pennsylvania ranks in the second highest quartile of opioid prescriptions per capita (88 per 100), and in 2014 was eighth in the country in age-adjusted drug overdose deaths.⁹ Since 2009, overdose deaths have doubled or tripled in each county served by these FHCs, highlighting the speed with which the epidemic is spreading.¹⁰

From the University of Pittsburgh Medical Center St Margaret Family Medicine Residency (Drs Han, Koenig, and Das), and the University of Texas at Austin College of Pharmacy (Dr Hill).

The notion that pain should be considered the “Fifth Vital Sign” became popularized in 1999 and was subsequently incorporated into standards enforced by The Joint Commission.¹ Over the

following decade, both opioid prescribing and opioid overdose deaths quadrupled in the United States.² In 2009, drug overdose deaths surpassed motor vehicle crashes as the leading cause of injury death.³

Methods

In February 2014, a naloxone counseling intervention was implemented utilizing an interprofessional team approach, including family medicine physicians, clinical pharmacists, and social workers. The project aimed to improve provider and patient awareness of naloxone, increase naloxone prescribing, and prevent opioid overdoses. Physician and pharmacist champions provided education about the naloxone intervention to FHC providers and staff before implementation with periodic updates thereafter. These sessions focused on risk factors for opioid overdose, naloxone administration, patient education, and the prescribing process. Broad criteria for naloxone prescribing to high-risk patients were recommended to FHC providers following the guidance of Project Lazarus and the San Francisco Department of Public Health (See Appendix 1 at <https://www.stfm.org/Portals/49/Documents/FMAppendix/Appendix1Hill.pdf>).^{7,11-12}

A naloxone outreach letter was integrated into the electronic health record (EHR), enabling providers to print copies for face-to-face discussion or to mail to patients' homes (See Appendix 2 at <https://www.stfm.org/Portals/49/Documents/FMAppendix/Appendix2Hill.pdf>). A comprehensive EHR order set was developed to streamline the prescribing of intranasal naloxone, as well as documentation and billing procedures. Naloxone kits, including pre-filled naloxone syringes, mucosal

atomization devices, and printed instructions for use, were assembled by clinical pharmacists. The UPMC St Margaret Department of Pharmacy supported this project by donating naloxone and mucosal atomization devices, facilitating free distribution to patients. Pharmacists and physicians discussed signs and symptoms of opioid overdose and demonstrated naloxone administration to identified patients. If naloxone was prescribed to a patient who presented to the visit alone, they were encouraged to schedule a clinical pharmacist follow-up visit and bring a friend, family member, or caregiver for personalized instruction.

Faculty and resident physicians were surveyed both prior to and 6 months after the intervention to assess their attitudes. Patients were surveyed by phone approximately 2 months after they received naloxone counseling. Due to small sample size, the survey data were categorized into positive (4,5), neutral (3) and negative (1,2) responses. The UPMC Institutional Review Board approved this project.

Results

From February 1, 2014 through May 31, 2015, 71 outreach letters were mailed to patients or printed for face-to-face discussion, and 97 intranasal naloxone kits were dispensed. Sixty percent of naloxone kits were prescribed for illicit opioid use, 36% were prescribed for chronic pain requiring opioids, and 4% were prescribed to concerned third parties

as allowed under Pennsylvania law. Five overdose reversals were reported to study personnel by patients or providers, and all events were determined to be distinct. In each instance, naloxone was prescribed for illicit opioid use and the patient used their kit to reverse the overdose of a nonpatient. Four kits were prescribed as refills for patients who utilized their initial kit to respond to an acute opioid overdose. One patient who utilized the initial kit to successfully reverse an overdose refused an offered refill, and reported being chastised by an emergency medical technician and an emergency medicine physician for administering naloxone.

Compared with preimplementation surveys, faculty and resident physician responses on the 6-month postimplementation survey demonstrated increased comfort prescribing opioids for acute pain (85% vs 45%) and heightened familiarity with naloxone prescribing in high-risk patient populations (54% vs 30%) (Table 1). The 22 resident physicians who completed the 6-month postimplementation survey reported improved satisfaction caring for patients requesting opioid refills (Table 2).

Follow-up phone survey responses from 16 patients who were utilizing prescription opioids for chronic, nonmalignant pain indicated high levels of willingness to obtain and use naloxone, seek opioid counseling services, and discuss opioid use comfortably with providers (Table 3).

Table 1: Physician Pre and Postimplementation Survey

Question	Preintervention	Postintervention	P-value
How comfortable are you prescribing opioids for acute pain?	45% (22/49)	85% (33/39)	.001
How familiar are you with prescribing naloxone for patients who use heroin, methadone, suboxone, or illicitly obtained opioids?	30% (15/50)	54% (22/41)	.032

Percentages shown represent the proportion responding "very comfortable" or "comfortable" to the 5-point Likert scale.

Table 2: Resident Physician Postimplementation Survey (n=22)

Question	A	N	D
I believe that face-to-face counseling advising naloxone use can improve my satisfaction caring for new patients seeking refills of chronic opioids.	20 (91%)	1 (4.55%)	1 (4.55%)

A: agree, N: neutral, D: disagree

Table 3: Patient Follow-up Survey (n=16)*

Question	C	N	U
How comfortable do you feel talking to your primary care provider about opioid use?	11 (62.5%)	2 (12.5%)	2 (12.5%)
How willing are you to have someone give you naloxone?	12 (75%)	2 (12.5%)	4 (25%)
How willing are you to seek services for opioid abuse?	9 (56%)	7 (43%)	0
How comfortable do you feel talking to your PCP about drug abuse?	11 (62.5%)	2 (12.5%)	2 (12.5%)
How open are you to give naloxone if an overdose occurs?	13 (81%)	2 (12.5%)	1 (6%)
How safe do you feel using chronic opioid therapy now that you have naloxone?	13 (81%)	2 (12.5%)	1 (6%)

C: comfortable, N: neutral, U: uncomfortable

*Not all patients responded to every question

Discussion

Our naloxone prescribing intervention resulted in several successful overdose reversals while educating providers and patients about opioid harm reduction. Due to the success of these efforts, a similar counseling and distribution program is being implemented throughout the UPMC health system. Recently published results from a large-scale program in San Francisco provide additional support for the integration of naloxone prescribing in primary care.¹³⁻¹⁴

Our study is limited by a few important factors. Most importantly, no control group was identified for comparison regarding either educational or clinical outcomes. We were unable to determine the proportion of counseling letters that were used in person or by mail, though anecdotal reports indicate most were printed and used in the office visit. Only a

small number of patients prescribed naloxone were able to be contacted for the patient follow-up survey. Finally, it is possible that more naloxone kits were utilized than reported, though five reversals per 97 kits represents a higher proportion of reported use than previous studies.⁷

We believe our interprofessional approach was foundational to successfully changing provider workflow and attitudes. Expanding on previous studies evaluating the role of pharmacists in substance abuse screening and counseling, our clinical pharmacists took the lead in procuring naloxone kits and developing teaching protocols.¹⁵⁻¹⁶ Social workers provided counseling and case management services to address substance use issues, and family medicine physicians provided oversight while strengthening motivational interviewing and counseling

skills. As opioid overdose rates continue to rise, it is imperative that naloxone counseling become an integral part of responsible opioid prescribing.

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Presentations: Utilization of a naloxone counseling letter to improve opioid prescribing. Family Medicine Education Consortium Northeast Regional Meeting, Arlington, VA, October 2014.

Naloxone counseling for harm reduction and patient engagement. American College of Clinical Pharmacy Global Conference on Clinical Pharmacy, San Francisco, CA, October 2015.

Naloxone counseling for harm reduction and patient engagement. Society of Teachers of Family Medicine Conference on Practice Improvement, Arlington, TX, December 2015.

CORRESPONDING AUTHOR: Address correspondence to Jonathan K. Han, MD, 815 Freeport Road, Pittsburgh, PA 15215. 412-784-4228. Fax: 412-784-5274. hanxjk@upmc.edu.

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