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# Does dispensing naloxone kits to high-risk patients at the time of emergency department (ED) discharge reduce the burden of subsequent overdose-related care?

Steve Perry, Pharm D; Charleen Melton, Pharm D, BCCCP; Rachel Beham, Pharm D | HCA

## Introduction

- Excessive opioid prescribing in the late 1990s and 2000s led to diversion and misuse of these useful but potentially dangerous drugs
- The CDC issued revised opioid prescribing guidelines in 2016 which favor non-opioid strategies for pain control and recommend avoiding or limiting the use of opioids when possible
- Opioid-related overdose and death have remained at or near historically high levels despite reform in opioid prescribing trends.
- Per National Institute on Drug Abuse 2017 data<sup>1</sup>:
  - 1.7 million Americans with prescription opioid abuse disorder
  - 650,000 Americans with a heroin use disorder
  - 47,000 annual opioid overdose-related deaths
  - Estimated annual economic burden of \$78.5 billion

## Objectives and Outcomes

- Primary objective:** determine if providing take-home naloxone emergency kits to high-risk patients reduces the subsequent institutional and regional burden of acute overdose-related medical care to a greater degree than providing written outpatient naloxone prescriptions
- Primary outcomes**
  - Rate of hospital and ED readmission for care related to opioid intoxication
  - Rate of hypoxic complications or death
    - Need for intubation and mechanical ventilation
    - Need for supplemental oxygenation
- Secondary outcomes**
  - Average cumulative dose of naloxone required by readmitted patients
  - Discharge disposition of readmitted patients

## Methods

### Patient identification

- Naloxone kits:** patients will be identified through internal audit of dispense reports for naloxone kits removed from Pyxis in the ED
- Written naloxone prescriptions**
  - ICD-10 codes will be used to identify patients with admissions potentially related to opioid overdose
  - Electronic health record (EHR) discharge notes will be reviewed to identify patients who received written outpatient prescriptions
- Exclusion criteria:** patients will be excluded from analysis if they are less than 18 years old, are pregnant or incarcerated at time of intervention, or do not require naloxone because they already have a dose at home

## Background

- In December 2018, Swedish Medical Center implemented the Outpatient Intranasal Naloxone protocol in the ED
- Patients visiting the ED who are determined to be at risk for opioid overdose may be eligible at discharge to receive a free naloxone emergency kit or written prescription for naloxone based on a provider-implemented decision making tree as outlined below

## Hypothesis

- By getting free naloxone kits into the hands of at-risk patients at ED discharge, the burden of opioid overdose-related care will be reduced at the source institution and on a regional level to a greater degree than in patients who receive outpatient naloxone prescriptions
- Previous research indicates that only 29% of naloxone prescriptions written in EDs are ever actually filled at an outpatient pharmacy<sup>2</sup>

### Data collection

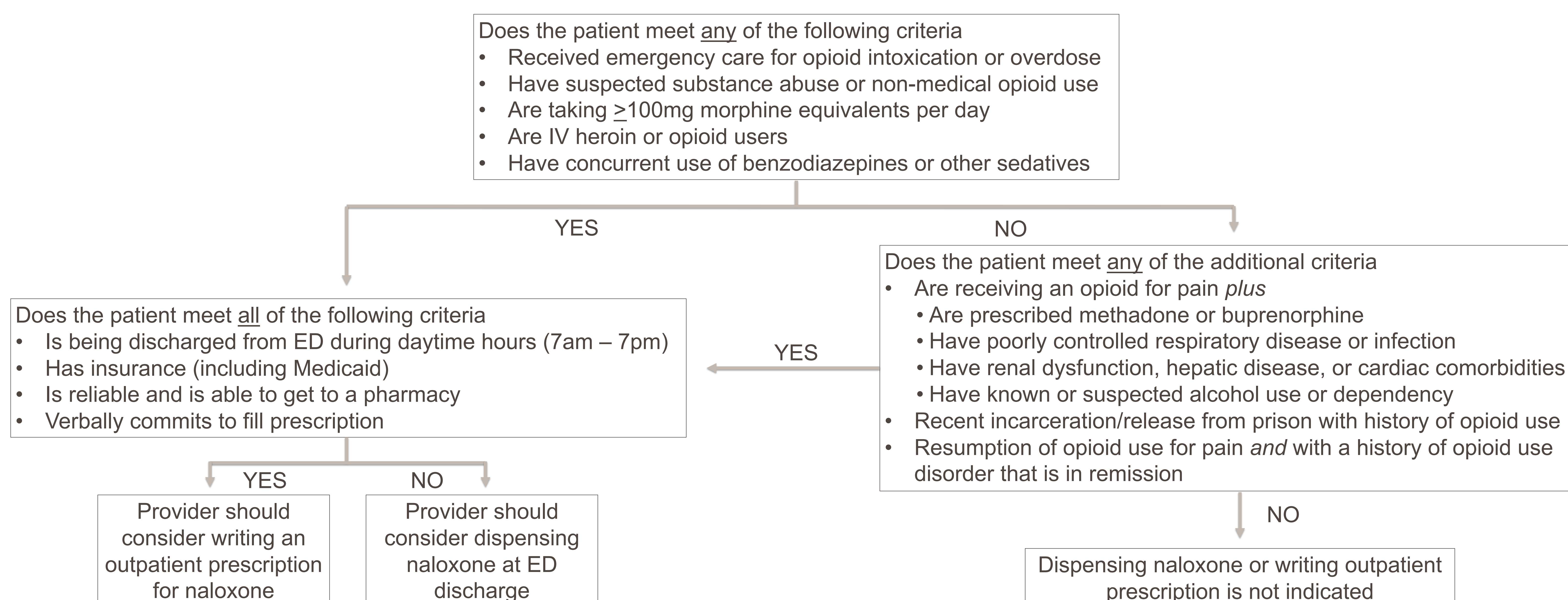
#### Baseline characteristics

- Age
- Sex
- Type of opioid intake
- Criteria patient met to receive either naloxone intervention
- Comorbidities that may be exacerbated by or treated in conjunction with overdose
  - Diabetes
  - COPD
  - Cardiac disorders
  - Infectious diseases

#### Outcomes

- For HealthONE division hospitals, outcomes will be determined through internal EHR review for patients who received either intervention at Swedish Medical Center
- Outcomes will be determined for patients that receive either intervention at Swedish Medical Center but receive overdose-related care at hospitals outside of the HealthONE through chart review in CORHIO, a regional EHR database that the majority of Denver Metro hospitals report to

## Provider-Based Decision Tree



## References

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