Background

- Opioid overdose deaths have increased nationally between 2001 and 2016. Overdose deaths can be caused by prescription opioids.
- Naloxone is a medication that can “rescue” patients during an opioid overdose episode, possibly preventing death.
- Despite clear guidelines to co-prescribe naloxone with opioid prescriptions, the rate of naloxone prescribing remains low.
- Fort HealthCare (FHC), a rural health system in Jefferson County, Wisconsin, recently implemented an electronic health record (EHR)-based clinical decision support (CDS) opioid toolkit to alert prescribers of patients at risk of opioid overdose and to prompt a “naloxone co-prescribing alert”.
- The CDS opioid toolkit identifies a patient as “high-risk” if they have: concurrent use of an opioid and a benzodiazepine, a high opioid daily dose, underlying mental health disorders, respiratory disorders, active illicit-drug use, and/or opioid overdose history.
- The CDS opioid toolkit was activated in February 2020.

Research Objective

The current study has two aims:

1. To evaluate the effectiveness of the toolkit on prescribing of naloxone to high-risk patients.
2. To understand the perceived acceptability of the toolkit by prescribers and facilitators to prescriber adoption of the toolkit.

Methods

- Study Design: Sequential Explanatory Mixed-methods design
- Quantitative Phase: The trend in the proportion of high-risk patients prescribed naloxone each month from January to November 2020 was examined. Monthly data were extracted from the EHR.
- Qualitative Phase: Semi-structured interviews were conducted with prescribers who interacted with the CDS opioid toolkit. The Technology Acceptance Model (TAM) was the conceptual framework that was used to construct the interview guide.
- Main Outcome Measures:
  - Effectiveness outcome: Percentage of high-risk patients who were prescribed naloxone
  - Implementation outcomes: Adoption and Acceptability of the toolkit through interviews

Population Studied: All patients with opioid prescriptions written by FHC providers, Prescribers who interacted with the alert

Principal Findings

Implementation of the CDS Opioid Toolkit Increased Naloxone Prescribing to High-Risk Patients in a Rural Health System, but needs Improvement.

Notable Quotations from Interviews:

“I think it helps me get closer to my goal of having the naloxone on everybody and I have on opioids that are on more than 50 MMEs a day. I think it’s been helpful to remind me to do that. And I think the more I see it the more, I remember it when I am with patients.”

“I know that my prescribing of naloxone has gone up since the alert has been there.”

Implications for CDS Toolkit Design

- Reminding providers to prescribe naloxone and identifying patients “at risk” are significant benefits of the toolkit.
- To improve adoption and acceptability of the toolkit, it needs to be modified to better fit the needs of the prescribers.
- Exploring ways to improve the timing (i.e. speed) of firing the alert will improve fit of the alert with provider workflow.
- Integration with other information contained in the EHR is needed to target when the alert fires to providers to reduce unnecessary firing.
- Developing methods to discuss naloxone use with patients and to reduce stigma associated with use are needed. It is unclear how these discussions will impact provider workflow.

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