

Background

- The Centers for Disease Control and Prevention reported the increase in deaths from opioid overdoses surging from three waves that are sweeping the nation.
 - Opioid prescription related deaths contributed to the first wave since the 1990s
 - Beginning in 2010, heroin overdose deaths started to climb
 - Synthetic opioids, such as fentanyl, have led to sharply increased deaths since 2013¹
- Battling the opioid epidemic must incorporate multiple angles²
 - Implement programs that monitor and restrict prescribing
 - Reduce patient exposure to opioids
 - Supporting evidence based pain management, such as multimodal analgesia¹
- The American Society of Anesthesiologists recommends around-the-clock non-opioids, such as nonsteroidal anti-inflammatory drugs (NSAIDs), $\alpha 2\delta$ antagonists (gabapentin or pregabalin), and acetaminophen.³
- A study of the Premier database in 2014 analyzed 2,853,632 hospitalized patients and showed 73% of patients received IV opioid monotherapy.⁴
- Health First hospitals started an interdisciplinary initiative to reduce patient exposure to opioids by increasing the use of multimodal analgesics in trauma, surgical and general inpatients.
- Health First consists of a health system of three community hospitals and a level II trauma center, totaling 886 beds.

Objective

- Evaluate a multicenter initiative to increase inpatient multimodal analgesics and its impact on opioid consumption

This study has been approved by the Health First Ethics Committee. Authors of this presentation have nothing to disclose concerning possible financial or personal relationships with commercial entities that may have a direct or indirect interest in the subject matter of this presentation.

References

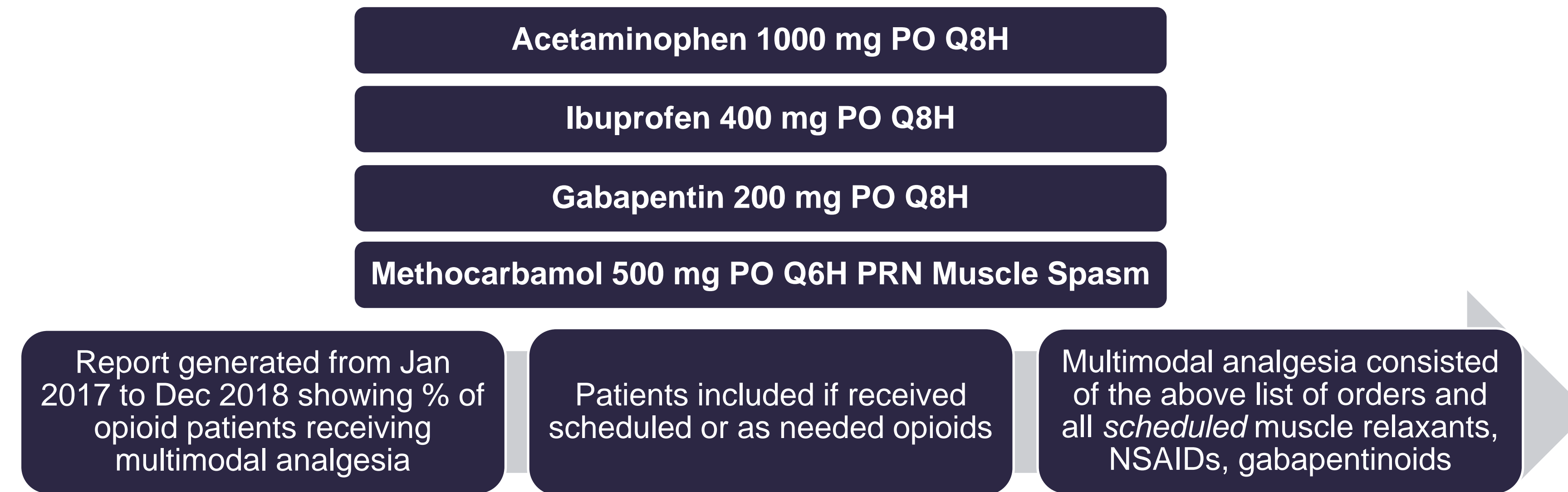
- Centers for Disease Control and Prevention (CDC) Understanding the Epidemic. 2017. Available from: <https://www.cdc.gov/drugoverdose/epidemic/index.html>.
- Chen Q, et al. Prevention of Prescription Opioid Misuse and Projected Overdose Deaths in the United States. JAMA Netw Open. 2019;2(2).
- American Society of Anesthesiologists. Practice guidelines for acute pain management in the perioperative setting: An updated report by the American Society of Anesthesiologists Task Force on Acute Pain Management. Anesthesiology. 2012; 116: 248–273.
- Premier Healthcare Alliance [paid-access hospital research database: data from January 2011-March 2015]. Charlotte, NC: Premier, Inc. Updated June 2015

Multicenter evaluation of opioid use after an initiative to increase multimodal analgesics

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Methods

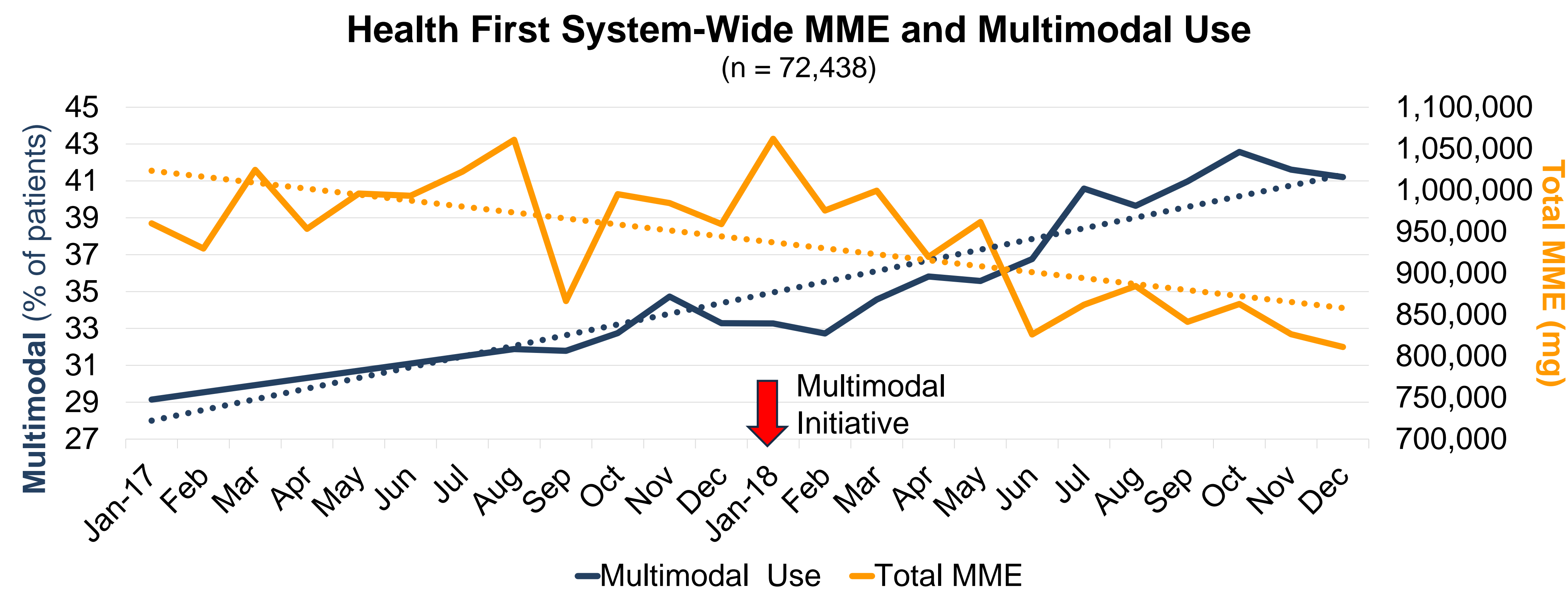
- A multimodal analgesia order set was implemented with multisite interdisciplinary education in January 2018.
- Order set duration was for 5 days for around the clock non-opioid analgesics



- Monthly charge data was analyzed for all opioids and converted to oral morphine milligram equivalents (MME)
- Independent t-test was used for comparing continuous, normally distributed data

Results

- For 2017 and 2018, opioids were prescribed for 36,664 and 35,774 patients, respectively. In total, this study included 72,438 patients.



	January 2017 (n = 3,282)	December 2018 (n = 2,873)
System-wide patients received opioids (%)	72.8	62.9

Results

	2017 (Monthly mean \pm S.D.)	2018 (Monthly mean \pm S.D.)	p value
System-wide discharges	4419 \pm 156	4460 \pm 172	0.54
System-wide patients received opioids	3055 \pm 140	2981 \pm 138	0.20
HRMC patients received opioids	1890 \pm 86	1810 \pm 94	< 0.05
Community hospital patients received opioids	1165 \pm 76	1171 \pm 63	0.83
System-wide patients received multimodal	969 \pm 49	1128 \pm 80	< 0.05
System-wide MME (mg)	978,717 \pm 50,397	902,655 \pm 80,467	< 0.05

Discussion

- Reduction in system-wide MME and an increase in patients administered multimodal analgesia were statistically significant.
- HRMC showed a statistically significant decrease in patients administered opioids.
- Difference in monthly means for MME showed a 7.7% decrease between years, however trend line data suggests at least a 23% decrease since the MME peak in January 2018.
- If the trend line is sustained, the projected annual opioid reduction would save over 2,000,000 MME compared to the year of 2017.
- A subgroup analysis of the surgical PCU floor that piloted the multimodal initiative showed an increased percentage of multimodal use from 39% in January 2018 to 60% at the end of the year.
 - This particular unit's success can be a goal for other hospital units.
- Limitations included:
 - Possible impact on opioid prescribing habits after Florida increased regulations and monitoring from House Bill 21 in July 2018
 - Opioid shortages of injectable morphine and hydromorphone
 - Retrospective study and strict interpretation of multimodal use

Conclusion

- This multicenter study demonstrated an association of increased use of multimodal analgesics with a reduction in MME after a multimodal analgesic order set and interdisciplinary education.
- Future research will evaluate MME reduction and Opioid-Related Adverse Drug Events (ORADEs)