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Safe Opioid Prescribing at Discharge

Taylor Goodman, PharmD; Elva Van Devender, PhD, PharmD, BCPS, DPLA; Luetta Jones, PharmD; Courtney Barber

Purpose

The purpose of this study is to evaluate discharge opioid prescriptions and to assess the impact of data sharing and provider group education on promoting safe opioid prescribing practices.

Objectives

- Primary Objectives**
- Evaluate impact of provider education and data sharing on opioid prescribing practices, including the discharge opioid, quantity of opioid tablets, and morphine equivalence.
- Secondary Objectives**
- Assess opportunities for decreasing the quantity and potency of opioids prescribed.

Background

- The US Department of Health and Human Services declared the opioid epidemic as a public health emergency.¹ The crisis persists, especially in Oregon, with an average of five Oregonians dying each week from opioid overdose.²
- Opioid receipt at hospital discharge among opioid naïve patients increased future chronic opioid use.³
- In US hospitals, physicians prescribe more opioids both inpatient and at discharge than in other countries.⁴
- Oregon providers wrote 66.1 opioid prescriptions for every 100 persons, higher than the national average.⁵
- Studies found common sources of large quantity prescriptions were emergency departments, post-surgical patients and internal medicine discharges.⁶
- Many discharged patients studied consumed 15 pills or less from their discharge prescription. Seventy percent planned to keep the excess opioids instead of disposing of them appropriately as directed.⁷
- The Society of Hospital Medicine recommends prescribing the minimum quantity of opioids anticipated to be necessary.⁸
- A survey of over 90 hospitals and healthcare systems found that the most common interventions implemented to improve opioid medication management included prescriber education (78%), new monitoring programs (56%), and prescriber limits (44%).⁹
- The use of multiple interventions in a 385-bed acute care hospital and associated health care system such as prescriber education, individual provider accountability, and reducing of default order amounts led to a reduction of 58% in morphine milligram equivalent (MME) per encounter, and 34% in MME per prescription. The rate of opioid prescriptions also decreased by 38% after 16 months postintervention.¹⁰
- In October 2018, hospitalist education was provided at study location consisting of data sharing of high-risk prescribing practices (day supply > one week, > 90 Morphine Equivalent Daily Dose (MEDD), concomitant benzodiazepine (BZD) prescriptions). Recommendation was to limit to < 50 MEDD prescriptions when possible.
- In February 2019, a software update in the study locations' associated healthcare system Electronic Health Record (EHR) reduced default quantity for new opioid discharge orders to 12 from 30 and calculated MEDD for the opioid orders.

Methods

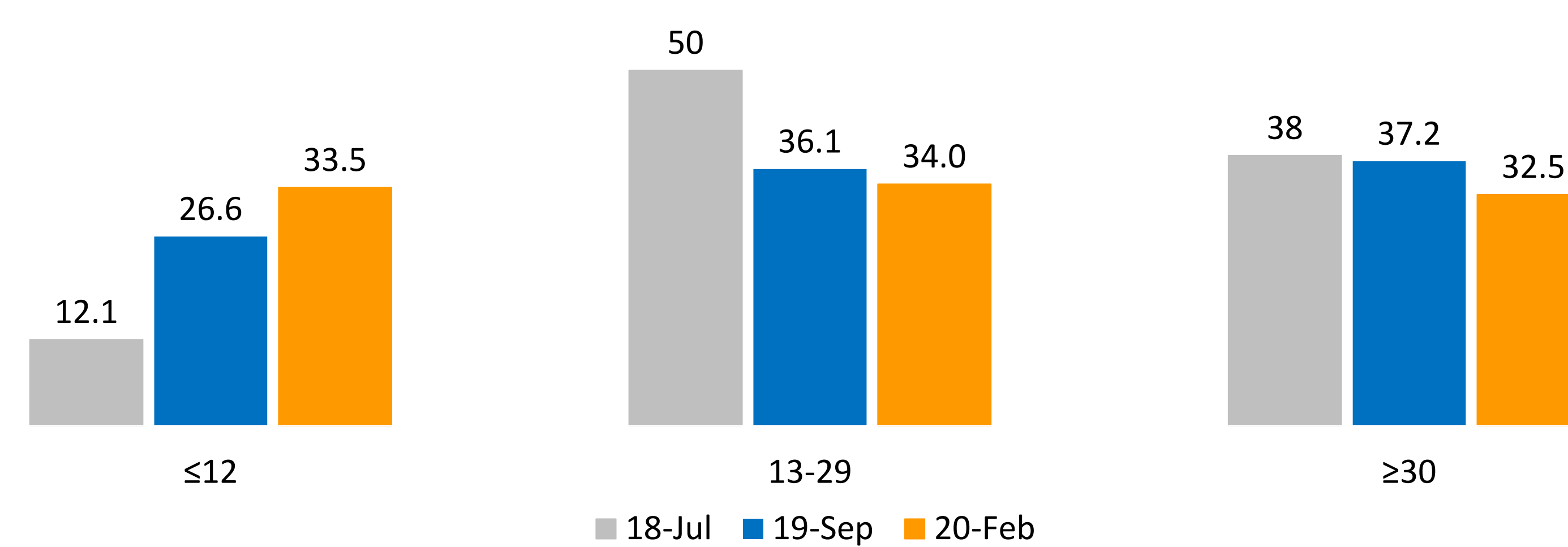
- Study design**
 - Retrospective pre-post review of discharge prescriptions at two large, tertiary, medical centers after provider education and data sharing intervention
- Inclusion criteria**
 - All patients with at least one opioid discharge prescription ordered by a hospitalist in a 30-day period in September 2019 and February/March 2020.
- Exclusion criteria**
 - Discharge opioid prescriptions for non-pain indications, methadone and extended-release, oral liquid, transdermal patch and suppository formulations

Results

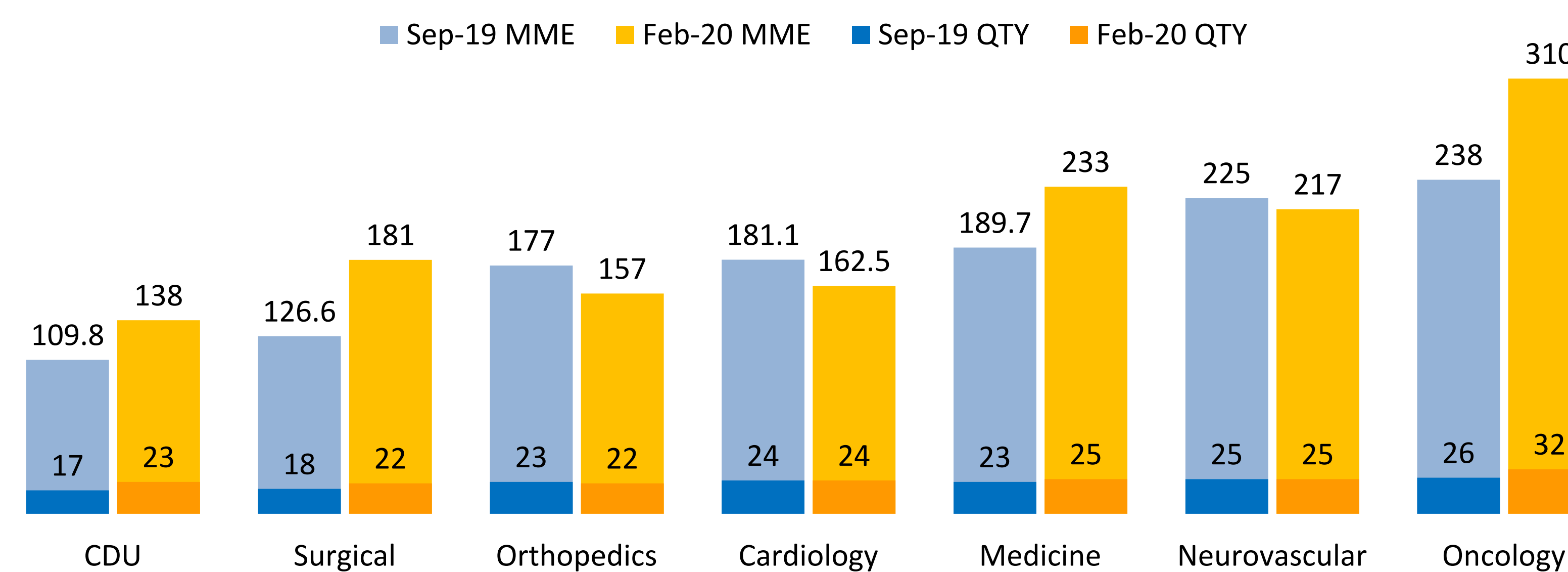
Hospital A

	July 2018	September 2019	February 2020
Hospitalist Discharges with Opioid	216	169	213
Avg Quantity per Discharge	25.8	23	25
Avg MME per Discharge	198.3	177.5	195.6
Concomitant BZDs	5.6%	7.1%	3.75%

Quantity Prescribed Per Discharge (Percentage)



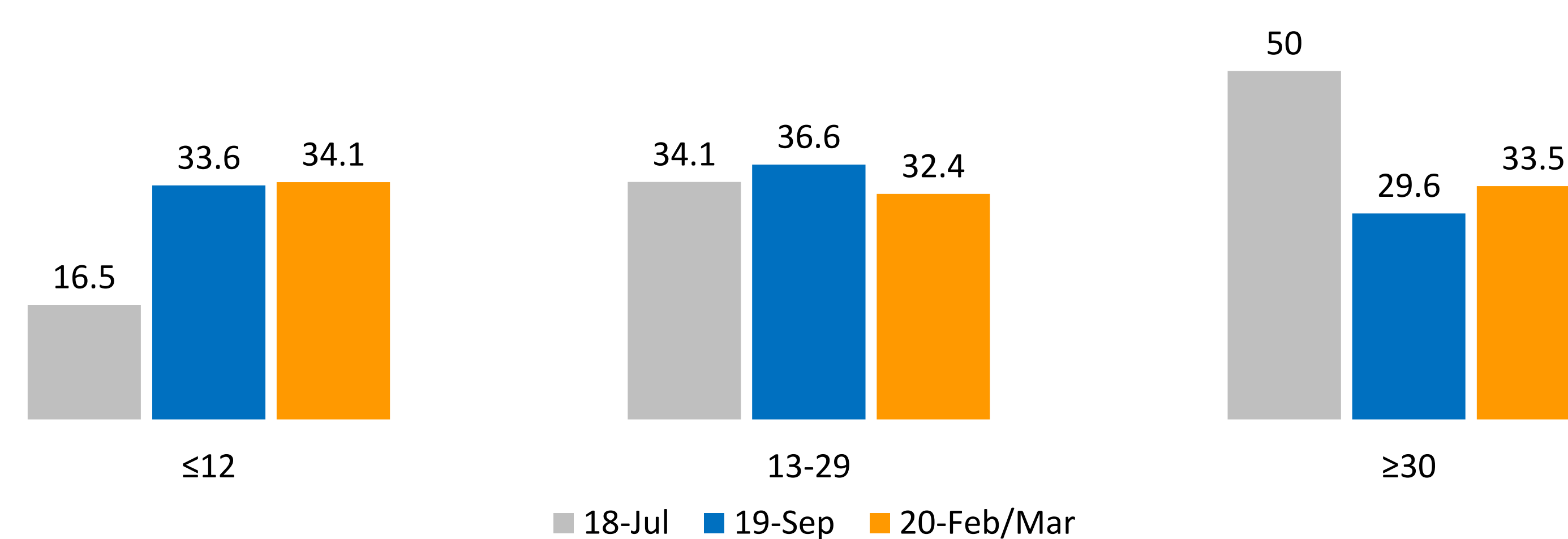
Average Prescribing by Ordering Department



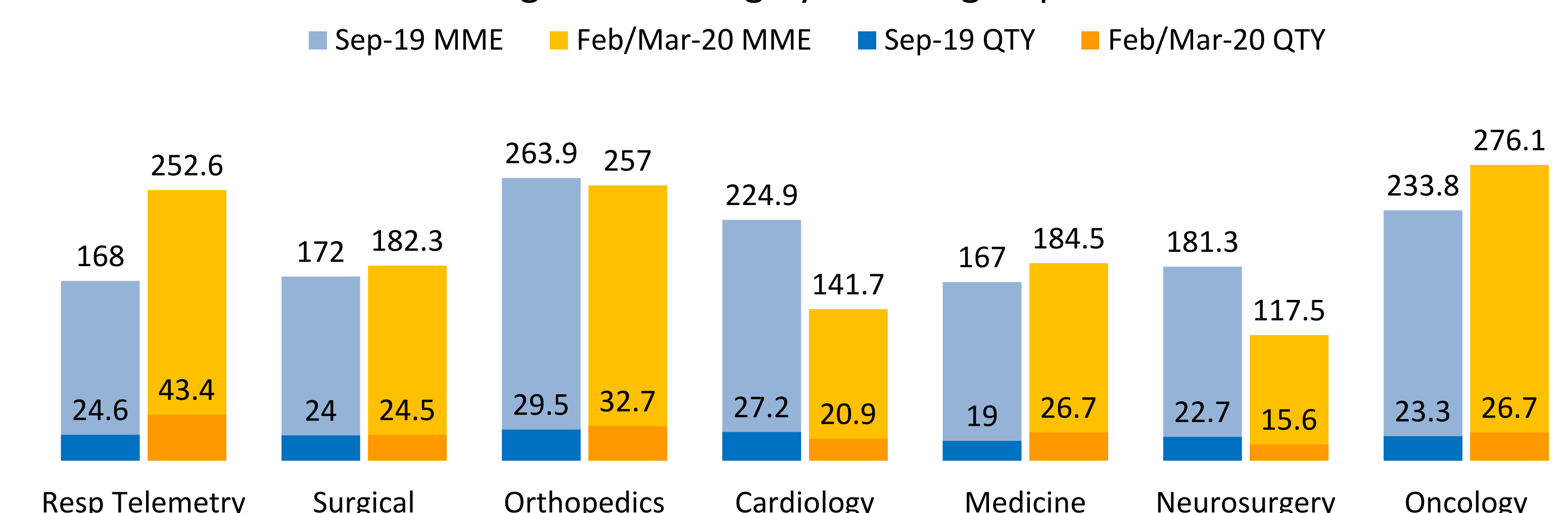
Hospital B

	July 2018	September 2019	February/March 2020
Hospitalist Discharges with Opioid	188	192	177
Avg Quantity per Discharge	34.9	23.3	25.8
Avg MME per Discharge	303.5	191	212
Concomitant BZDs	3.2%	6.3%	6.1%

Quantity Prescribed per Discharge (Percentage)



Average Prescribing by Ordering Department



Results Continued

Quantity Distribution

- Discharge prescriptions for quantities <30
- Hospital A (62% in 2018, 62.7% in 2019, and 67.5% in 2020)
 - Hospital B (50.6% in 2018, 70.2% in 2019 and 66.5% in 2020)

Opioid Agent

- The most frequently prescribed opioid was oxycodone (64% for Hospital A, 59% for Hospital B)

Discussion

Summary of Interventions and Limitations

EHR change to new discharge prescriptions to default to 12 instead of 30 tablets plus addition of MME calculations implemented in early 2019.

- Results comparison prior to intervention (2018) to post intervention (2019 and 2020) indicate that it was effective in promoting safer prescribing practices. Overall average quantity and MME per discharge decreased at both institutions by late 2019, and while increased slightly in 2020, did not return to pre intervention values. Average quantity per discharge also shifted markedly toward amounts ≤12, indicating new discharge prescriptions were being ordered at default quantities when utilized.
- Limitations include EHR default quantities only affecting new orders, not continuation of inpatient treatments, a practice that is commonly used for transition to discharge orders. Another limitation is the wide variation of patient populations and service lines treated by hospitalists.

Education and data sharing provided to Provider groups in October 2018 and again in early 2020.

- Results comparison of pre education/data sharing only intervention (2019) and post (2020) indicate that it was not as effective as when combined with more system orientated interventions, as overall average quantity and MME per discharge increased at both institutions, in contrast with the decline seen after the 2019 interventions.
- Limitations include the inability to track providers that received education directly and which providers were exposed to data sharing. Another limitation was the timing and duration of the observation periods, which may not have aligned providers' schedules between pre and post intervention data captures and might not have allowed providers enough time to process and implement safer prescribing practices post education/data sharing.

Conclusion/Next Steps

While longer term monitoring and individual provider follow up is needed to elicit the true impact of provider education and data sharing intervention, future efforts should combine multiple interventions. These should target the individual via continued education/data sharing and system processes via workflow adjustments such as encouraging utilizing new opioid orders upon discharge. Targeting specific service lines could help identify more opportunities to promote safer prescribing practices going forward.

Author Disclosures

Authors of this presentation have the following 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:

- Taylor Goodman, Pharm.D.: *Nothing to disclose*
- Elva Van Devender, Pharm.D.: *Nothing to disclose*
- Luetta Jones, Pharm.D.: *Nothing to disclose*
- Courtney Barber: *Nothing to disclose*

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