

Opioid reduction in pancreatectomy patients: Driving down dependence and depleting the diversion pool

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Background

- Problem Statement:** Post-operative opioid prescriptions contribute to the community diversion pool of narcotics at-risk for abuse and put patients at-risk for opioid overuse, abuse, and overdose. Previous efforts have been directed towards opioid reduction in minimally invasive procedures, but few have targeted open surgery, such as pancreatectomy.
- Project AIM:** The goal of this project was to create an opioid reduction toolkit to be used on pancreatectomy patients to reduce the percentage of opioids prescribed by 50% and increase the percentage of patients aware of proper disposal techniques for unused opioids by 50% within 1 year.

Baseline Metrics

- In order to measure baseline prescribing, consumption, and disposal awareness measures patient telephone and in-person interviews were conducted within 14 days of pancreatectomy (**Figure 1**)
- Outcomes included:
 - Morphine milliequivalents (MMEs) prescribed
 - MMEs consumed
 - Percentage of patients aware of appropriate disposal methods
- Balancing Measure: Refill request rate
- Based on baseline measurements (n=24), algorithm was constructed to apply to pancreatectomy patients

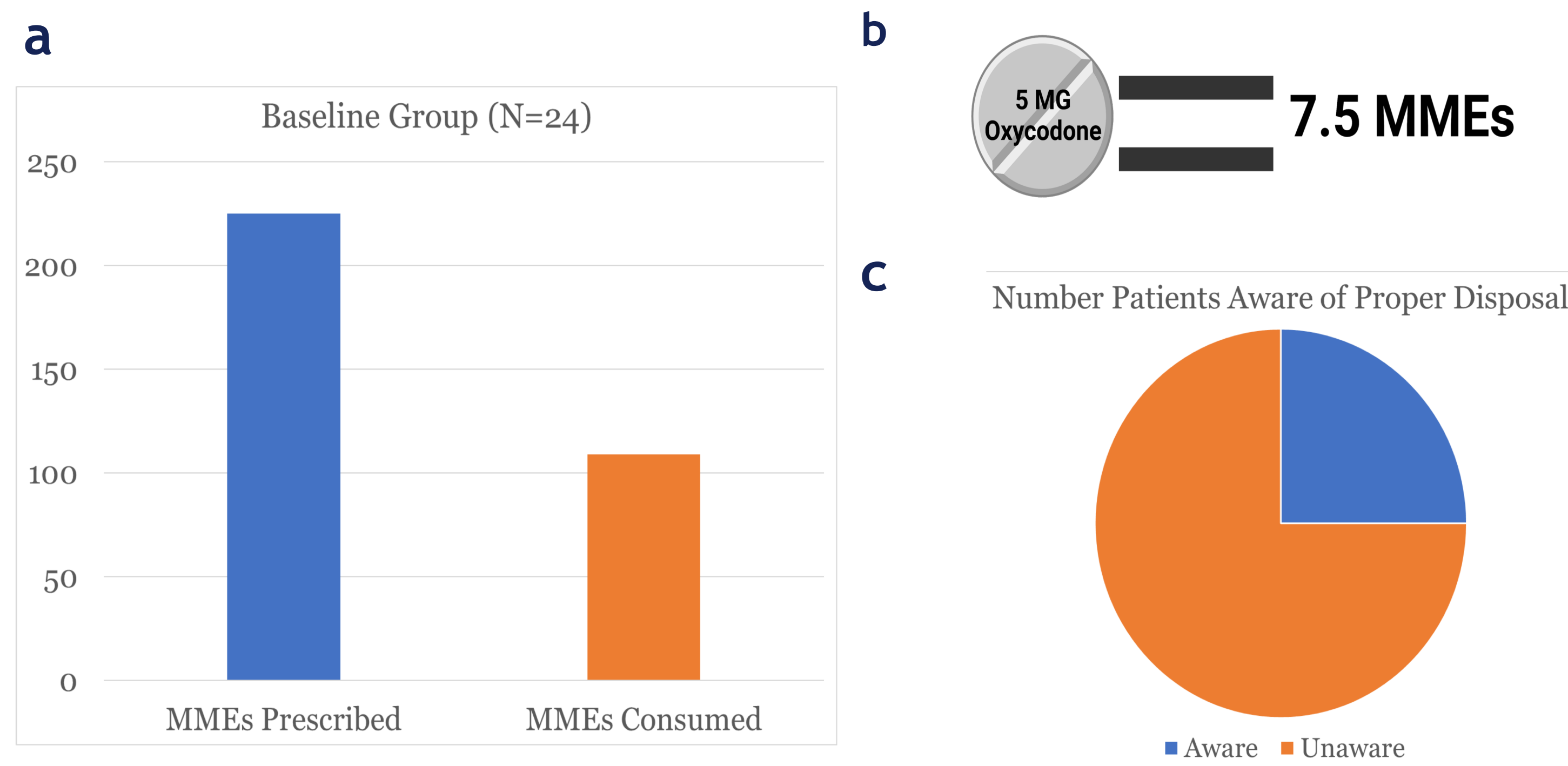


Figure 1. (a) MMEs prescribed and consumed (b) MME conversion (c) Patient awareness of unused opioid proper disposal technique

Interventions

- No local or national guidelines existed so factor contribution analysis was performed with relevant stakeholders (attending, residents, APPs, nursing, pain management specialists, information technology/electronic medical record leadership) (**Figure 2**)

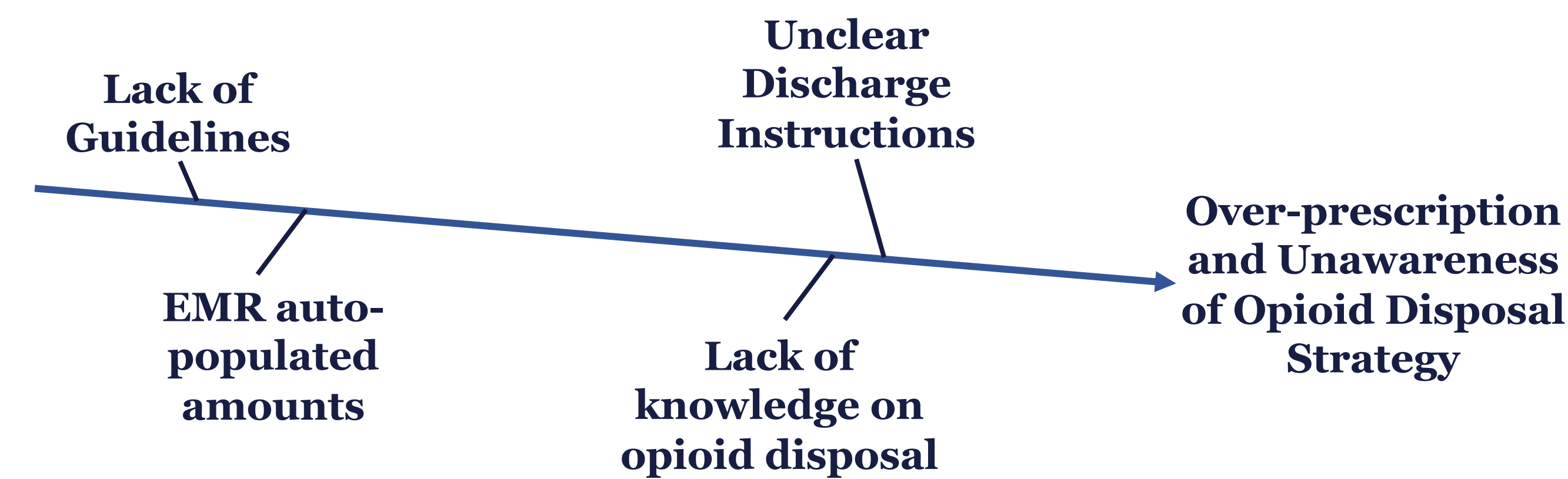


Figure 2. Factor Contribution Analysis

- Utilizing the stakeholder input and baseline metrics, opioid toolkit was established and published on TJUH Intranet (**Figure 3**)

Procedure	Recommended Rx
Esophagectomy	20
Hernia	10
Kidney Transplant	15
Laparoscopic Cholecystectomy	10
Laparoscopic Colectomy	15
Liver Resection	15
Mastectomy	15
Open Colectomy	15
Pancreatectomy	15
Vascular Bypass	25
WATS	15

Figure 3. Opioid Reduction Toolkit

- Toolkit was implemented and outcomes measured with education sessions and (**Figure 4**)

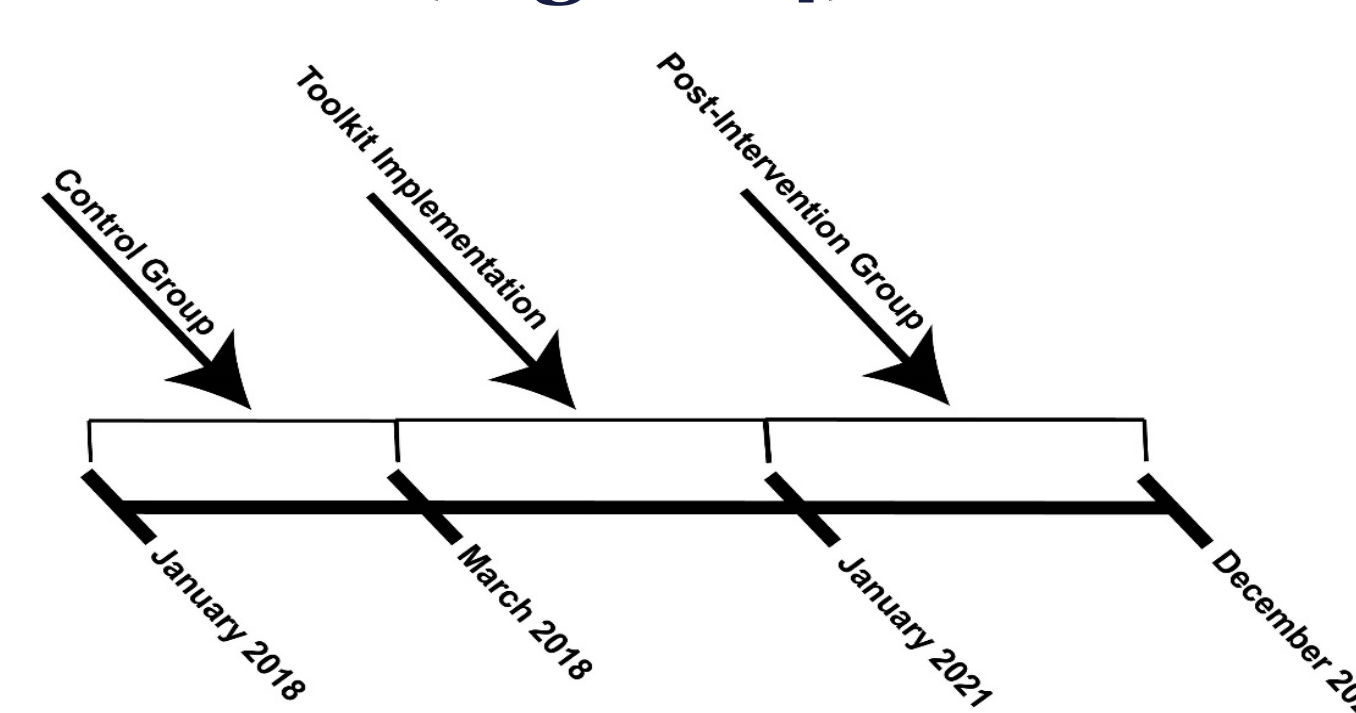


Figure 4. Intervention Timeline

Results

- No significant differences were seen in comparison of baseline and post-intervention group (**Table 1**)

Table 1

	Control Group (N=24)	Post-Intervention Group (N=135)	p-value
Age, Median (IQR)	73 (64-74)	68 (61-75)	0.3
Female (%)	12 (50%)	61 (45%)	0.4
Procedure			0.6
Pancreaticoduodenectomy (Classic or PPPD)	18 (75%)	90 (66%)	
Distal Pancreatectomy	6 (25%)	39 (28%)	
Total Pancreatectomy	0 (0%)	7 (5%)	
Opioid Naïve	13 (54%)	69 (55%)	0.8

- There was a >50% reduction in MMEs prescribed and consumed
- There was >50% increase in patient awareness of proper disposal techniques
- There was no significant change in refill request rates (**Table 2**)

Table 2

	Control Group (N=24)	Post-Intervention Group (N=135)	p-value
MMEs Prescribed, Median (IQR)	225 (225 - 310)	75 (75 - 113)	<0.0001
MMEs Consumed, Median (IQR)	109 (111 - 207)	15 (0 - 75)	<0.0001
Number Aware of Proper Disposal, N (%)	6/24 (25)	84/57 (67)	<0.0001
Number Requested Refills, N (%)	4/24 (17)	18/135 (14)	0.9

Challenges and Lessons Learned

- Implemented in 2018, measured in 2021
 - Creation, Compliance, and COVID

Future Directions

- Further reduction of prescriptions since patients consuming only ~20% of prescribed opioids
- Application to other open procedures
- DEA-approved opioid dropboxes in surgeon's offices

Linkage to Healthcare Disparities

- Opioid use, abuse, overdose disproportionately affects historically disenfranchised patient populations so reducing prescribed opioid entry into the at-risk pool can reduce poor outcomes
- Little research is done into opioid reduction in the cancer patient cohort, our results show that not only are they at-risk, but our research shows there is room for improvement in this cohort