



AIM:

To evaluate the impact of TPMG initiatives on opioid-prescribing practices after breast surgery

METHODS:

TPMG Initiatives, 2016-2018

- Enhanced Recovery After Surgery (ERAS) protocols
- Reduced default opioid pill counts on electronic order sets
- Physician and staff education sessions

Breast Surgery Program Initiatives

- Consolidation of breast surgery to high-volume surgeons

Patient Data

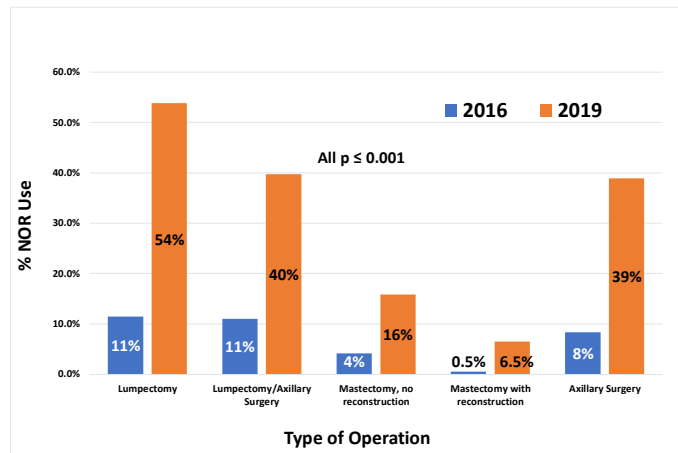
- Retrospective evaluation of KP HealthConnect databases (Epic)
- 2016 (pre-intervention) and 2019 (post-intervention) cohort characteristics were well-matched

Characteristic	Total Breast Operations (n=4083)				p-value	Non-Opioid Regimen Operations (n=1018)				p-value
	2016 n=1917		2019 n=2166			2016 n=172		2019 n=846		
Age groups	n	%	n	%		n	%	n	%	
<40	203	11%	210	10%	0.50	12	7%	84	10%	0.85
40-64	997	52%	1115	51%		79	46%	399	47%	
≥65	717	37%	841	39%		81	47%	363	43%	
Sex					0.474					0.31
Male	12	1%	10	1%		0	0%	5	0.5%	
Female	1905	99%	2156	99%		172	100%	841	99.5%	
Chronic Pain Condition					0.003					<0.001
Yes	394	21%	366	17%		42	24%	121	14%	
No	1523	79%	1800	83%		130	76%	725	86%	
Average Body Mass Index (SD)	28.5	(6.7)	28.5	(6.7)	0.96	28.7	(7.1)	28.8	(7.2)	0.87
Malignancy					<0.001					0.09
Yes	998	52%	1404	65%		86	50%	482	57%	
No	919	48%	762	35%		86	50%	364	43%	
Type of Operation										
Lumpectomy	778	40%	922	42%	0.63	89	52%	496	59%	0.34
Lumpectomy with axillary surgery	600	31%	667	31%		66	38%	265	31%	
Mastectomy without reconstruction	290	15%	322	15%		12	7%	51	6%	
Mastectomy with reconstruction	201	11%	201	9%		1	1%	13	1.5%	
Axillary operations	48	3%	54	3%		4	2%	21	2.5%	
Multimodal Analgesia use					<0.001					<0.001
Yes	970	51%	1895	87%		76	44%	752	89%	
No	947	49%	271	13%		96	56%	94	11%	

RESULTS:

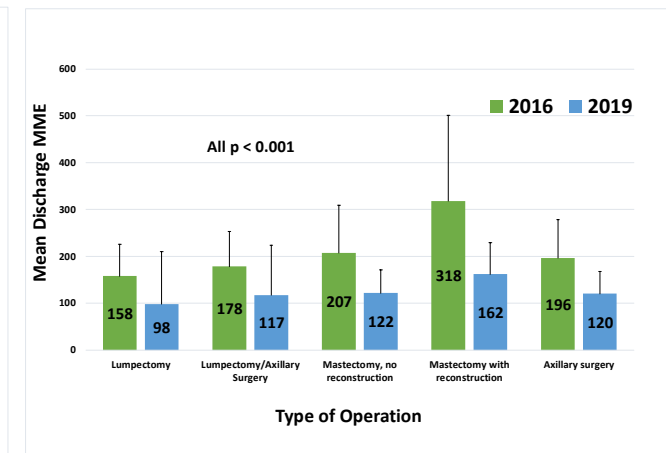
Non-opioid regimen (NOR) use for all breast operations increased significantly between 2016 and 2019

Non-Opioid Regimen Use by Breast Operation, 2016 vs 2019



For patients prescribed opioids, significantly fewer morphine milligram equivalents (MME) were prescribed at discharge in 2019

Mean Discharge Morphine Milligram Equivalents per Operation by Type of Operation, 2016 vs 2019



NOR patients were significantly less likely to present to the ED within 7 days of surgery

- 1.9% NOR vs 3.4% opioid regimen, p<0.001

7-day readmission rates were similar

- 0.49% NOR vs 0.32% opioid regimen, p=0.45

CONCLUSIONS:

- TPMG initiatives successfully reduced opioid-prescribing and increased NOR for all types of breast operations, including mastectomy with reconstruction
- Adverse outcomes (ED visits, readmissions) for NOR patients were less than or similar to those for opioid regimen patients

This study was approved by the Kaiser Permanente Northern California Institutional Review Board.

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