Quality and Productivity Commission

33rd Annual Productivity and Quality Awards Program

"Empowering Innovative Solutions"

2019 APPLICATION

Title of Project (Limited to 50 characters, including spaces, using Arial 12 point font):

NAME OF PROJECT: REDUCTION IN POSTOPERATIVE OPIOID USE

DATE OF IMPLEMENTATION/ADOPTION: AUGUST 2017
(Must have been **fully** implemented **for a minimum of** at least one year - on or before July 1, 2018)

PROJECT STATUS: x Ongoing _____ One-time only

HAS YOUR DEPARTMENT PREVIOUSLY SUBMITTED THIS PROJECT? _____ Yes x No

EXECUTIVE SUMMARY: *Describe the project in 15 lines or less using Arial 12 point font. State clearly and concisely what difference the project has made.*

Patients undergoing surgery often experience weeks of post-operative pain. Historically, all surgical patients have received opioids for the treatment of post-operative pain. However, given the rising opioid epidemic and reports that 1 in 16 surgical patients prescribed opioids become long-term users, the OVMC Gynecology Service adopted in 2017 a new program to systematically reduce opioid use for postoperative pain control with the implementation of an ERAS (enhanced recovery after surgery) protocol for all gynecologic services. As such, we implemented a multi-modal analgesic protocol using a combination of NSAIDs, acetaminophen, gabapentinoids scheduled around the clock and opioids ordered only on an as needed basis. Over 95% of patients received per protocol multimodal non-narcotic pain management. This allowed for dramatic reductions in opioid use with near complete avoidance of postoperative narcotic pain medications in over 50% of gynecologic and gynecologic oncology patients. This was accomplished for patients undergoing minimally invasive surgeries and those requiring open surgery through large incisions. Furthermore, the impact on opioid reduction was similar for patients undergoing benign gynecological or cancer surgeries.

BENEFITS TO THE COUNTY

(1) ACTUAL/ESTIMATED **ANNUAL** COST AVOIDANCE	(2) ACTUAL/ESTIMATED **ANNUAL** COST SAVINGS	(3) ACTUAL/ESTIMATED **ANNUAL** REVENUE	(1) + (2) + (3) = TOTAL **ANNUAL** ACTUAL/ESTIMATED BENEFIT	SERVICE ENHANCEMENT PROJECT
$	$	$	$	X

ANNUAL = 12 MONTHS ONLY

SUBMITTING DEPARTMENT NAME AND COMPLETE ADDRESS Department of Obstetrics and Gynecology, Olive View-UCLA Medical Center	**TELEPHONE NUMBER** 747-210-3222
PROGRAM MANAGER'S NAME Anjali Hari, MD, Abdulrahman Sinno, MD, and Christine Holschneider, MD	**TELEPHONE NUMBER** 747-210-3222 **EMAIL** cholschneider@dhs.lacounty.gov
PRODUCTIVITY MANAGER'S NAME AND SIGNATURE (PLEASE CALL (213) 893-0322 IF YOU DO NOT KNOW YOUR PRODUCTIVITY MANAGER'S NAME) Connie Salgado-Sanchez C. Salgado-Sanchez **DATE** 6/27/19	**TELEPHONE NUMBER** 213-288-8483 **EMAIL** cosanchez@dhs.lacounty.gov
DEPARTMENT HEAD'S NAME AND SIGNATURE Christina R. Ghaly, M.D. **DATE** 6/27/19	**TELEPHONE NUMBER** 213-288-8050

We Support Plain Language

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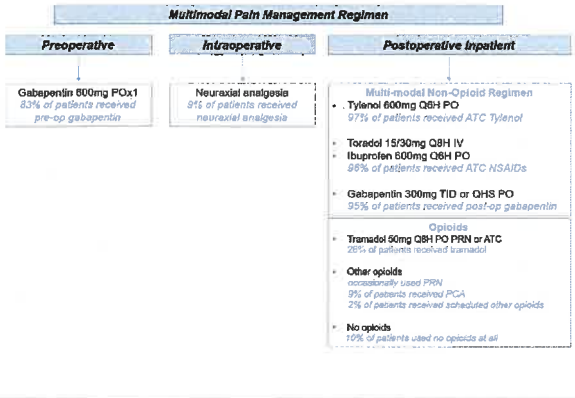
1st FACT SHEET – LIMITED UP TO 3 PAGES ONLY: Describe the **challenge(s), solution(s), and benefit(s)** of the project **to the County**. What quality and/or productivity-related outcome(s) has the project achieved? Provide measures of success **and specify assessment time frame.** Use Arial 12 point font.

Challenges. Opioid misuse in the United States has reached epidemic proportions. Of chronic opioid users, nearly one third reports their initial opioid prescription came from a surgeon, and the majority of recent heroin users report being introduced to opioids via prescription medications. Based on recent published data, one in 16 surgical patients prescribed opioids becomes a long-term user.

As surgeons, we manage pain in multiple different settings. In treating acute post-operative pain, our goal has to become to provide adequate pain control while minimizing the risks and morbidities related to opioid use. Therefore, we as surgeons must become better stewards in managing opioid use in the post-operative setting.

Solutions. The Gynecology Services (gynecologic oncology, urogynecology, and general gynecology) at Olive View-UCLA Medical Center developed a protocol aimed at reducing postoperative opioid medication use as much as possible while providing comparable postoperative pain relief. In the spring of 2017 we instituted a clinician-mediated, department-level intervention in order to effectively modify postoperative opioid prescribing practices as a strategy to minimize opioid use and related risks of misuse. This protocol reflects a complete shift in practice for a service which previously routinely prescribed standing opioid pain medications for post-surgical patients. This protocol is one aspect of the Enhanced Recovery After Surgery (ERAS) pathway developed at OVMC in 2017 in collaboration with Anesthesiology.



ERAS-Multimodal Analgesia Protocol and In-Hospital Usage.
The multimodal non-narcotic peri-operative pain management protocol included a single preoperative dose of gabapentin and around the clock (ATC) acetaminophen, NSAIDS (ketorolac or ibuprofen), and gabapentin postoperatively. Supplemental narcotics were to be ordered as needed (PRN), and only with rare indications ATC. Discharge pain medications were multimodal while narcotics were minimized based on last 24 hour in-hospital use.

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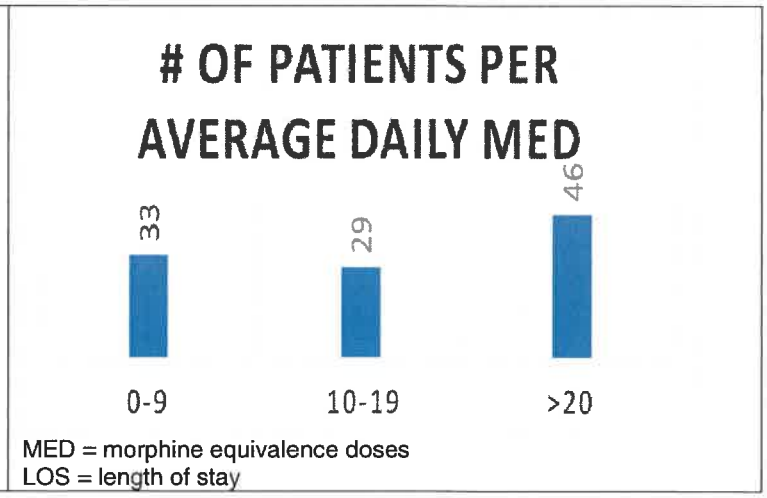
Benefits. This multimodal non-narcotic pain medication protocol was successfully used for our patients regardless of mode of surgery (minimally invasive or exploratory laparotomy) or type of surgery (benign or cancer). While the protocol and shift in practice affected both outpatients and inpatients, the subsequent data presented represents the cohort of patients who were admitted for at least one night after surgery. Pain control was excellent, and over half of our patients had near complete avoidance of opioids (a cohort who prior to the protocol would have all received primarily narcotic-based pain medications).

To analyze outcomes of our nonnarcotic multi-modal perioperative pain regimen and determine supplemental use of various narcotic pain medications we calculated morphine equivalence doses (MED) for each patient. To aid comparisons, each patient's postoperative total MEDs were normalized by length of stay (LOS). Average daily MEDs were stratified into minimal (0-9), occasional (10-19), and frequent use (>20).

Measures of success analyzed over a 9-month period are presented here. Using this multimodal non-narcotic pain regimen, narcotic use was zero to minimal in 33 patients (31%), occasional in 29 patients (27%), and frequent in 46 patients (43%). Of note, 14 patients (13%) were on preoperative narcotics at presentation, and 10% of patients used no opioids postoperatively. The median maximum pain score on postoperative day (POD) #1 was 2 for patients with minimal, 7 for patients with occasional, and 8 for those with frequent narcotic use ($p < 0.001$). Minimal, occasional, and frequent narcotic use was not significantly correlated with open versus minimally invasive surgery ($p=0.47$), or benign vs. malignant diagnoses ($p=0.56$).

Average Daily MED Stratification
MED/LOS 0-9 Minimal use • *< 50mg tramadol PO Qday*
MED/LOS 10-19 Occasional use • *50- <200mg tramadol PO Qday*
MED/LOS ≥20 Frequent use • *≥200mg tramadol PO Qday*
Reference: *-Oxycodone 5mg = 7.5 MED* *-Tramadol 50mg = 5 MED*



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Preoperative gabapentin was significantly associated with decreased length of stay (2.1 vs. 2.66 days, $p < 0.05$) and decreased median POD1 maximum pain scores (6 vs. 7.5 $p < 0.05$). Post discharge narcotic refills were required for 6 patients (5%), none which were for patients who were minimal in-house users.

In summary, this multi-modal non-narcotic perioperative pain management protocol systematically implemented across surgical services allowed for near complete avoidance of postoperative narcotic pain medications in nearly half of all patients, and it did so regardless of the type of surgery (minimally invasive vs. open) or underlying diagnosis (benign vs. cancer). This is a huge improvement in the care for our patients that bears significant impact on the reduction of opioid use by our patients.

Linkage to the County Strategic Plan – 1 page only. Which County Strategic Plan goal(s) does this project address? Explain how. Use Arial 12 point font.

-Goal 1: Make investments that transform lives→ addresses this goal
-Goal 2: Foster vibrant and resilient communities→ addresses this goal
-Goal 3: Realize tomorrow's government today

In recent years, there has been an alarming rise in opioid addiction in the United States which has reached epidemic proportions. Our project meets goal #1 of investing in bettering the lives of our patients by decreasing the amount of opioids they are exposed to postoperatively and the amount they are discharged home with while also achieving adequate pain control. By creating a multimodal pain regimen in which more than 50% of patients had near complete avoidance of opioid medications regardless of mode of surgery or pathology, we are decreasing unnecessary opioid prescriptions. Our project also meets goal #2 of helping foster a resilient community by decreasing the need for opioid prescriptions sent home with patients and preventing the first step to addiction.

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COST AVOIDANCE, COST SAVINGS, AND REVENUE GENERATED (ESTIMATED BENEFITS TO THE COUNTY): If you are claiming cost benefits, include a calculation on this page. Please indicate whether these benefits apply in total or on a per unit basis, e.g., per capita, per transaction, per case, etc. You must include an explanation of the County cost savings, cost avoidance or new revenue that matches the numbers in the box. Remember to keep your supporting documentation. Use Arial 12 point font

Cost Avoidance: Costs that are eliminated or not incurred as a result of program outcomes. Please indicate whether these are costs to the County or to other entities.

Cost Savings: A reduction or lessening of expenditures as a result of program outcomes. Please indicate whether these were expenditures by the County or by other entities.

Revenue: Increases in existing revenue streams or new revenue sources to the County as a result of program outcomes.

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$	$	$	$	X

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