UNC Health's System Opioid Stewardship Program

Constanza Bacon
Opioid Stewardship Program Project Management Lead
Care Redesign Leader, Care Redesign, UNC Health

Brooke Chidgey, MD
Associate Professor of Anesthesiology
Division Chief of Pain Medicine
Medical Director of UNC Pain Management Center, University of North Carolina at Chapel Hill

Today's Discussion

1. Overview of UNC Health's System Opioid Stewardship Program
2. Overview of Standard Opioid Prescribing Schedule (SOPS)
3. Program Outcomes
4. Lessons Learned

UNC Health’s Opioid Stewardship Program: A Multicomponent Intervention To Mitigate Harms

Precision Opioid Prescribing

Provider and Patient Education

Safe Storage and Disposal of Opioids

Substance Use Disorder Screening and Treatment

Decreased Opioid Misuse

System Opioid Stewardship Program – Overview

Program Progress:

- More than 90 Standard Opioid Prescribing Schedule (SOPS) recommendations now available
  - Populations include: surgical, emergency medicine, primary care, obstetrics, and pediatrics
- SOPS list available in Epic@UNC as of April 2019
- Default prescription number of 10 established for select opioids live in Epic@UNC as of April 2019
- SOPS adherence reporting live as of June 2019
- Worked with Population Health on opioid registry build in Epic@UNC
  - Infrastructure in Epic@UNC to capture, report and support system-level improvement work for opioid patients and providers in the ambulatory setting
  - Live as of May 2020
- Operationalizing substance use disorder screening
  - Live as of April 2021
- Partnership with North Carolina Healthcare Association (NCHA)

Standard Opioid Prescribing Schedule (SOPS)

The Standard Opioid Prescribing Schedule (SOPS) is a comprehensive list of recommendations for the number of opioid doses to prescribe upon discharge

- Reviewed and updated yearly by the System Opioid Stewardship Program
- Existing SOPS can be revised based on patient survey data, prescriber data, and other institutions with similar recommendations
- New SOPS are proposed and added to the list after analysis and appropriate approvals
- Patient populations include: surgical, emergency medicine, primary care, obstetrics, and pediatrics
- Recommendations are for opioid naïve adult and pediatric patients
- Recommended opioid for prescribing is 5mg of Oxycodone

The SOPS list is available in Epic as a reference link in the opioid composer, document in the Clinical Decision Support Library, and on our internal intranet site

SOPS adherence data is available for the health system and updated on a daily basis

- Data is available at a system, hospital, and prescriber level

SOPS – Adult Surgical, Emergency Department, and Primary Care Recommendations

Precision Opioid Prescribing

Adult

Service	Procedure Group	# of Opioid Doses
Acute Care Surgery	Lap Chole	0-10
	Lap Appy	0-10
	Inguinal/Femoral Hernia Repair (open/laparoscopic)[2]	0-10
	Open Incisional Hernia Repair[2]	0-14
Adult ENT	Cochlear Implant	0-10
	Head & Neck	0-20
	Laryngoscopy	0-10
	Nasal/Sinus Endo	0-15
	Nose Repair	0-15
	Parotid Procedure	0-15
	Skull Based	0-20
	T & A	0-30
	Thyroid/Parathyroid[2]	0-5
	Facial Trauma	0-30
	Tympanoplasty	0-15
Adult Neurosurgery	Craniectomy	0-30
	Shunts	0-30
	Stereotactic Pre/Post Procedure	0-30
Thoracic Surgery	Minimally Invasive Thoracic Procedures	0-20
	Minimally Invasive Robotic Procedures	0-20
Emergency Department	ED Patients with an acute pain condition necessitating opioids	0-10
Gastrointestinal Surgery	Lap Chole	0-10
	Lap Colectomy[2]	0-10
	Lap Esophageal[2]	0-15
	Loop Ostomy Takedown[2]	0-15
	Minimally Invasive Abdominal Procedure (i.e. adrenalectomy, partial gastrectomy)	0-20
	Open Colectomy[2]	0-15
	Open Incisional Hernia Repair[2]	0-14
	Inguinal/Femoral Hernia Repair	0-10
	Parastoma/Stoma Revision	0-25
	Proctectomy	0-20
Gynecology	Hysterectomy	0-15
Gynecologic Oncology	Colostomy[2]	0-20
	Hysterectomy	0-15
	Ileostomy[2]	0-25
	Oophorectomy[2]	0-20
	Open Incisional Hernia Repair[2]	0-14
	Radical Vulvectomy	0-20
	Simple Vulvectomy	0-10
Orthopedics	Total Knee	0-50
	Total Hip	0-30
	Total Shoulder	0-30
	ACL	0-30
	Rotator Cuff	0-40
Plastic Surgery	Hidradenitis	0-50
	Breast Reduction & Panniculectomy	0-30
	Hand Fracture	0-20
	Carpal Tunnel	0-5
Primary Care	Patients with an acute pain condition necessitating opioids	0-10
Surgical Oncology	Partial Mastectomy[2]	0-20
	Complete Mastectomy	0-30
	Complete Mastectomy with Reconstruction	0-45
	Melanoma/Skin Excision with or without Sentinel Node[2]	0-5-local anesthesia 0-20-general anesthesia
	Node Dissection (ALND, MRND, ILND)[2]	0-30
	Thyroid/Parathyroid[2]	0-5
	Lap Chole	0-10
	Lap Appy	0-10
	Loop Ostomy Takedown[2]	0-15
	Minimally Invasive Abdominal Procedure (i.e. laparoscopic/robotic colectomy, adrenalectomy, partial gastrectomy)	0-20
Urology	Cystectomy	0-15
	Cysto/TUR	0-10
	Lap Neph	0-15
	Nephrostolithotomy	0-15
	Penile/Urethral	0-10
	Prostatectomy	0-10
	Scrotal/Testis	0-10
	Ureteroscopy	0-10

SOPS – Perioperative LOS > 4 Algorithm and C-Section Recommendations

Precision Opioid Prescribing

Adult Perioperative LOS > 4 Days Algorithm

Participating Surgical Services	Total Dose of Oxycodone (mg) in last 24 hrs	# of Opioid Doses Recommended[3]
•Adult ENT •Burn Surgery •Cardiac Surgery •Thoracic Surgery •Gastrointestinal Surgery •GYN Oncology •Surgical Oncology	0 mg	0
	1-15 mg	0-15
	16-35 mg	0-30
	36-60 mg	0-45
	≥ 61mg	0-60

3. Adapted from Hill, MV, Stucke, RS, Billmeier, SE, Kelly, JL, Barth, RJ. Guideline for Discharge Opioid Prescriptions after Inpatient General Surgical Procedures. J Am Coll Surg. 2017; 226(6): 996-1003

Obstetrics-Cesarean Delivery

Procedure	Total # Oxycodone (5mg) used in last 24 hrs	# of Opioid Doses Recommended[4]
Cesarean Section (for 5-Day Supply)	0	0
	1	0-5
	2	0-10
	3	0-15
	4	0-20
	5	0-25
	6 or more	0-30

4. If zero opioids were used last 24 hours, recommend NOT prescribing opioids. However, prescription for 1-5 tablets can be considered using shared decision-making with patient. Maximum of 30 tablets is recommended but higher levels may be needed for opioid tolerant patient. If a different opioid is prescribed, use same algorithm of the number of tablets used in the last 24 hours x 5 to determine recommended prescription amount.

Precision Opioid Prescribing

SOPS – Pediatric Recommendations

Pediatric

Service	Procedure Group	# of Opioid Doses Recommended[5]
Pediatric ENT	T & A	<12 yo: 0-20, ≥ 12 yo: 0-30
Pediatric Orthopedics	Implant Removal	0-5
	Pediatric Spine	0-40
	Supracondylar Humeral Fracture Repair	0-5
Pediatric Neurosurgery	Craniectomy	0-10
	Laminectomy	0-5
	Shunts	0-5
Emergency Department	ED Patients with an acute pain condition necessitating opioids	0-10
Pediatric Surgery	Pediatric Lap Appy	0-5
	Umbilical Hernia Repair	0-5
	Inguinal Hernia Repair	<1 yo: 0, 1-10 yo: 0-5, ≥ 10 yo: 0-10
Pediatric Urology	Circumcision	0-5
	Cystourethroscopy	0-5
	Hypospadias	0-12
	Inguinal Hernia Repair / Orchiopexy	<1 yo: 0, 1-10 yo: 0-5, ≥ 10 yo: 0-10
	Laparoscopy	0-5
	Nephrectomy (lap)	0-5
	Nephrectomy (Open)	0-10
	Ureteroneocystostomy	0-10
	Vesicostomy	0-5

5. The above Standard Opioid Prescribing Schedule (SOPS) has been confirmed by the appropriate departments for opioid naïve pediatric patients. The recommended opioid for prescribing is 0.05-0.1 mg/kg of Oxycodone.

Pediatric Perioperative LOS ≥ 3 Days Algorithm

Population	Total Doses of Oxycodone (mg) in last 24 hrs	# of Opioid Doses Recommended[6]
Pediatric Patients < than 12 years of age or < 40kg	0 doses	0
	1-2 doses	0-5
	3-4 doses	0-10
	5 doses	0-15
	≥ 6 doses	0-30
Pediatric Patients ≥ than 12 years of age or ≥ 40 kg	0 mg	0
	1-15 mg	0-15
	16-35 mg	0-30
	≥ 36 mg	0-45

6. The above Standard Opioid Prescribing Schedule (SOPS) has been confirmed by the appropriate departments for opioid naïve pediatric patients. The recommended opioid for prescribing is 0.05-0.1 mg/kg of Oxycodone.

Precision Opioid Prescribing

SOPS – How were they created?

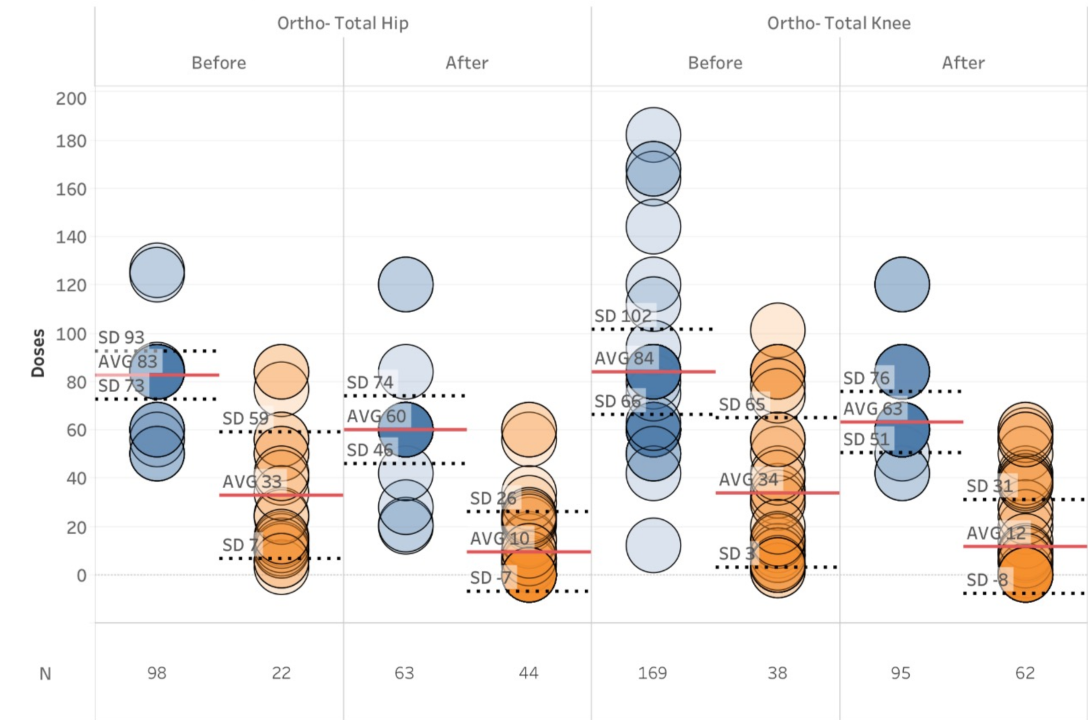
UNC Medical Center organized pilots to collect initial data on prescribing patterns and patient usage of opioids after surgical procedures

The initial survey was completed by calling patients but was eventually automated into an electronic survey that was given to all patients in the designated surgical populations

The local opioid team worked with surgical team leads to review the patient data and create opioid prescribing recommendations

Other medical institutions doing work in this space were also consulted when creating SOPS

Orthopedics THA & TKA
Prescribed vs. Used
Before & After Recommendations
April 4, 2018 - February 3, 2019



Surgical Service	Procedure Group	# of Opioid Doses Recommended
Orthopedics	Total Knee	0-50
	Total Hip	0-30

SOPS – How were clinicians educated on SOPS?

Educational materials were created for clinicians and patients

Public-facing website created for patients to access additional information on storage and disposal

Adherence data was regularly shared with appropriate clinical and quality teams

Know your Options and Be Safe

1. Follow medicine instructions carefully.
2. Talk to your doctor about non-opioid treatment options.
3. Keep track of when you take your medicine.
4. Ask your doctor before changing how much you take.
5. Ask your doctor about opioid reversal medicine (such as Naloxone) in case of accidental overdose.

If you have further questions, please ask your doctor. Opioids can help with pain when taken correctly and safely, but there are other options.

Resources

North Carolina Department of Health and Human Services
https://www.ncdhhs.gov/opioids

Carolinas Poison Center
1-800-222-1222

Centers for Disease Control and Prevention
https://www.cdc.gov/drugoverdose/prescribing/patients.html

U.S. Food & Drug Administration
https://www.fda.gov/Drugs/ResourcesForYou/Consumers/BuyingUsingMedicineSafely/EnsuringSafeUseofMedicine/SafeDisposalofMedicines/ucm186187.htm

UNC Medical Center Opioid Stewardship
www.UNCopioidsafeuse.org

TREATING YOUR PAIN AT HOME

SEVERE PAIN
ARE YOU
Unable or need lots of help with activities like going to the bathroom or bathing?
Having lots of trouble eating or drinking?
Feeling severe pain?
USE
BOTH Tylenol© (acetaminophen) AND Advil© or Motrin© (ibuprofen) every 6 hours while awake
Take prescribed pain medicine as told by your doctor
Call your doctor as instructed in your discharge papers

MODERATE PAIN
ARE YOU
Able to do some normal activities with help?
Able to eat and/or drink some?
Feeling medium pain?
USE
BOTH Tylenol© (acetaminophen) AND Advil© or Motrin© (ibuprofen) every 6 hours while awake
ALSO TRY
Putting ice on the area of pain
Lifting (or raising) the area above the heart
Taking your mind off of the pain by watching TV, reading, or playing a game

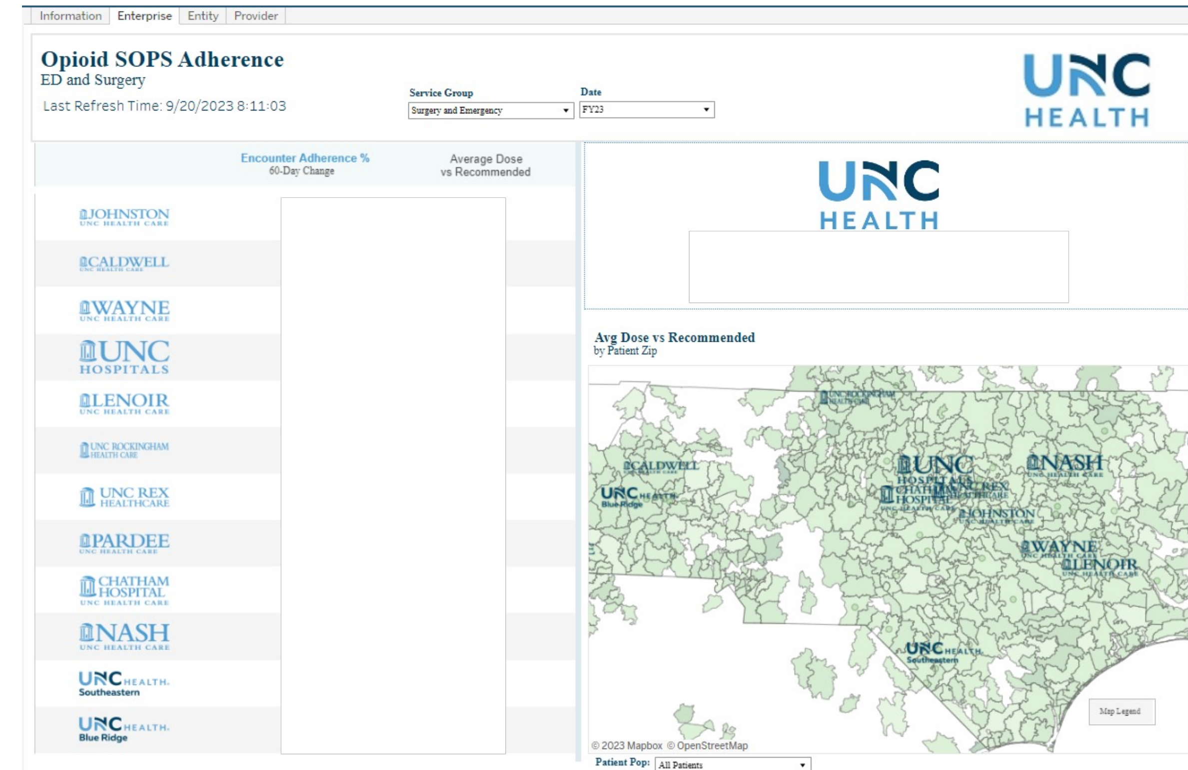
MILD PAIN
ARE YOU
Able to do most daily activities like sleeping and getting to the bathroom?
Able to eat and/or drink?
Feeling mild pain?
USE
Tylenol©(acetaminophen) AND/OR Advil© or Motrin© (ibuprofen) AS NEEDED
ALSO TRY
Putting ice on the area of pain
Lifting (or raising) the area above the heart
Taking your mind off of the pain by watching TV, reading, or playing a game

SOPS – System-wide Implementation

Due to the success of the local opioid program at UNC Medical Center, the System Opioid Stewardship Program was created to begin a system-wide SOPS implementation

A physician champion was identified at each hospital, education and training sessions were held with all appropriate clinical staff, and adherence data was provided through a system dashboard that updated daily

- A system-level fiscal year goal ran for several years to increase participation and adherence to SOPS
  - This was reviewed and discussed monthly at the highest level
- Once the system fiscal year goal retired, individual hospitals still had the option to select SOPS adherence as a local goal



No Change in Patient Satisfaction with Pain Control after SOPS Implementation

Systematically reducing opioid doses has no negative impact on patients' pain experience post-operatively

Orthopedic THA & TKA
April 4, 2018 - February 3, 2019

PROMIS 6B Question Responses
Since your surgery, how much did you experience _______ ?
1- Not At All 2- A Little Bit 3- Somewhat 4- Quite A Bit 5- Very Much

	Before	After
Postsurgical Pain	2.94	1.51
Pain At Home	2.31	1.21
Pain During Activities	3.20	1.51
Pain During Chores	3.41	1.69
Pain During Errands	3.42	1.78
Pain During Social	2.54	1.30
Total Patients	80	107

Post-intervention patient surveys reveal no increase in prescription refill requests and no change in patient satisfaction with their pain control.

Inpatient Surgical Opioid Prescribed Doses on Discharge

71% reduction in prescribed opioid doses on discharge

	2017	2018	2019	2020	2021	2022
Prescribed Doses	1,119,600	824,100	541,600	422,100	353,200	329,400
Doses per Encounter	52.6	38.8	30.0	26.4	23.0	20.8

Prescribed Doses axis: 0K, 500K, 1000K
Doses per Encounter axis: 0, 20, 40, 60

Data: Calendar years 2017-2022 for all Epic@UNC Health Hospitals. Prescribed doses rounded.
Opioids defined as medications captured in the ERX GENERAL OPIOID ANALGESICS [2100100185] Grouper

Emergency Department Opioid Prescribed Doses on Discharge

56% reduction in prescribed opioid doses on discharge

	2017	2018	2019	2020	2021	2022
Prescribed Doses	638,100	500,000	380,200	234,800	253,500	281,600
Doses per Encounter	14.4	13.5	12.2	10.9	10.6	10.4

Data: Calendar years 2017-2022 for all Epic@UNC Health Hospitals. Prescribed doses rounded.
Opioids defined as medications captured in the ERX GENERAL OPIOID ANALGESICS [2100100185] Grouper

Lessons Learned and Essentials for Success

Senior leadership buy-in through fiscal year goal setting allowed for fast system implementation and sustained 80%+ adherence to the SOPS

Dedicated clinical and quality champions at the local hospital level

Dedicated system-level project management, IT, clinical, and data resources

System adherence dashboard automatically updated on a daily basis to provide essential data to frontline staff

Tools built into Epic to aid in sustained adherence to SOPS

Questions?

Appendix

Partnership with NCHA

Approached by NCHA to create and spread UNC Health's SOPS

> *"Hospitals have an enormous opportunity to ensure safe prescribing of opioids is institutionalized through standard opioid prescribing schedules (SOPS). The North Carolina Healthcare Foundation has created a Standard Opioid Prescribing Schedules toolkit based on the data-driven and highly successful model created by UNC Health. This new toolkit offers hospitals standards to adopt across 90 SOPS — populations including surgical, emergency medicine, primary care, obstetrics, and pediatrics."*

See SOPS Toolkit here