Opioid Stewardship MATters: Addressing Opioid Use Disorder Across the Continuum of Care

and

Stewards for Surgery: Employing Perioperative Opioid Stewardship Strategies

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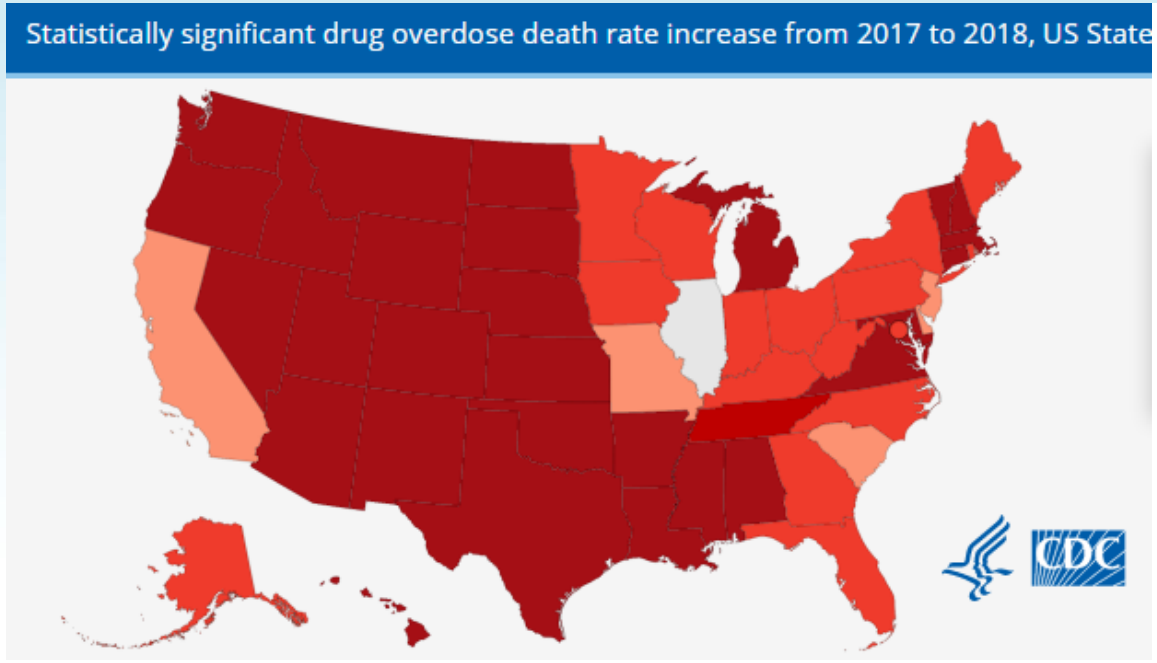
Eskenazi Health

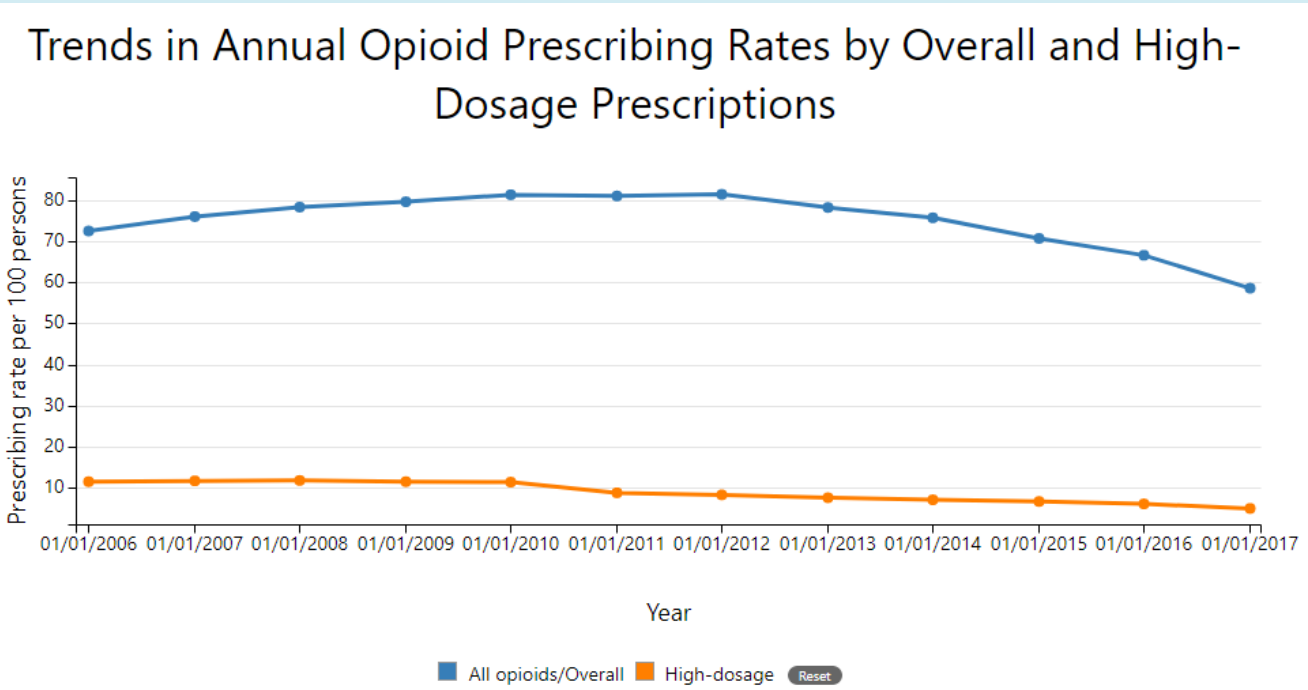
October 22, 2020

Learning Objectives

1. Define medication assisted treatment (MAT) and its role in combatting the opioid epidemic.
2. Identify inpatient and outpatient opioid stewardship efforts that can be implemented to support patients with an opioid use disorder.
3. Outline strategies for pain management in patients receiving medication assisted treatment (MAT) throughout the continuum of care.
4. Describe the importance of establishing patient expectations prior to surgery for improved outcomes.
5. Employ available recommendations to guide safe opioid prescribing following surgical procedures.
6. Outline strategies for perioperative pain management in patients receiving medication assisted treatment (MAT).

How Does Your State Stack Up?





https://www.cdc.gov/drugoverdose/data/statedeaths/drug-overdose-death-rate-increase-map-2017-2018.html Accessed September 14, 2020

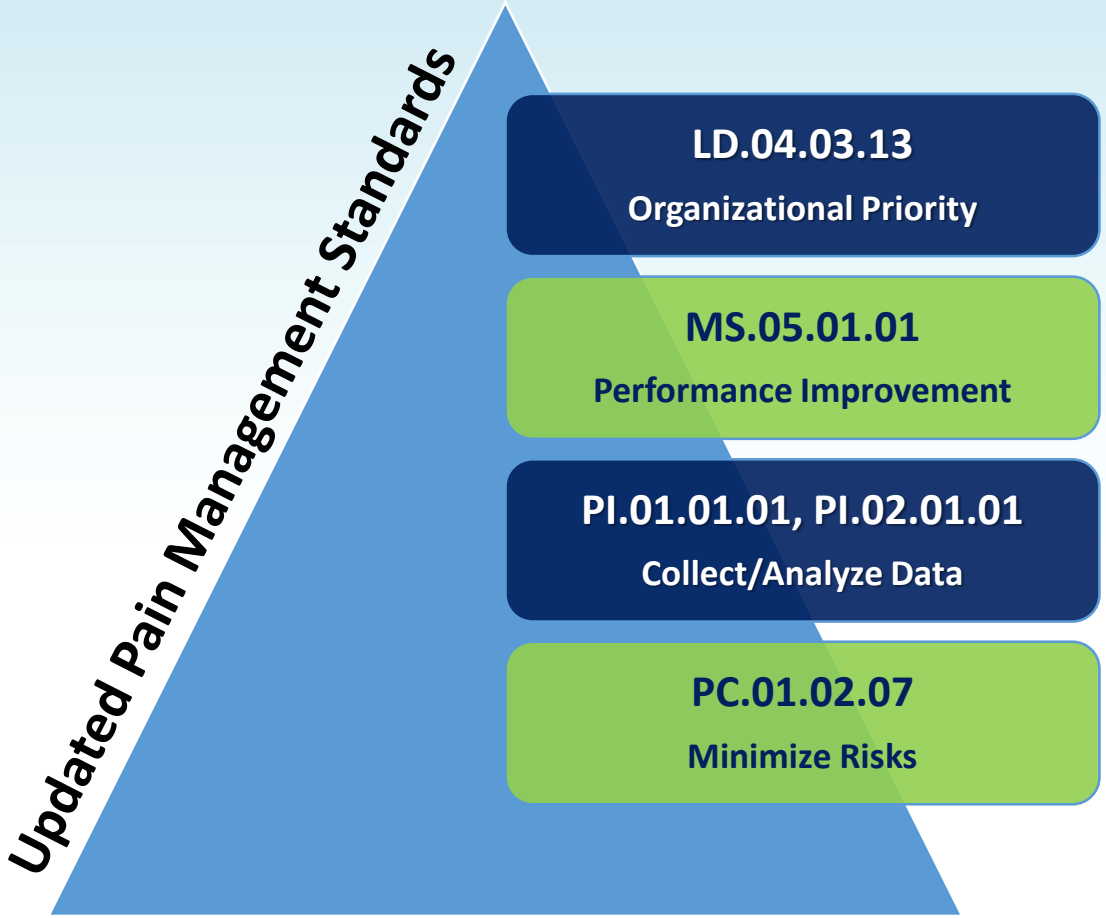
https://www.cdc.gov/drugoverdose/data/prescribing/prescribing-practices.html. Accessed September 14, 2020.

CDC Chronic Pain Guidelines

CDC: Centers for Disease Control and Prevention

https://www.cdc.gov/drugoverdose/pdf/guidelines_at-a-glance-a.pdf. Accessed August 1, 2019.

TJC Standards Inpatient



TJC: The Joint Commission

The Joint Commission. Joint Commission enhances pain assessment and management requirements for accredited hospitals. Available at: https://www.jointcommission.org. Accessed May 27, 2020. Pain Management Standards for Accredited Organizations. Available at: https://www.jointcommission.org. Accessed May 27, 2020.

…What now?

Implementation of a pain medication stewardship program

Pain medication stewardship is important to pharmacy practice becau

ferent types of pain management, there

The Joint Commission Journal on Quality and Patient Safety 2019; 45:3–13

A Health System–Wide Initiative to Decrease

The Joint Commission Journal on

The Time for Opi

Friedhelm Sandbrink, MD; Raj Up

On October 26, 2017, the US and Human Services official crisis affecting the United States gency.[1] This public declaration drew increase in lives lost to the opio 1990s and the enormous harm to ciety as a whole caused by opioid use disorder (OUD). The opioid crisis has since

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https://doi.org/10.1080/15360288.2020.1765066

EDITORIAL

Opioid Stewardship: Building on Antibiotic Stewardship Principles

ABSTRACT

The opioid stewardship model is born out of the antimicrobial stewardship model, and thus there are many shared characteristics. Both opioid stewardship and antimicrobial stewardship are based on the principle that there is an indication for a particular medication in the right patient, at the right

KEYWO
Opioid;
stewards

Ghafoor VL, et al. Implementation of a Pain Medication Stewardship Program. *Am J Health-Syst Pharm*. 2013;70:2070-2075. Weiner SG, et al. A Health System-Wide Initiative to Decrease Opioid Related Morbidity and Mortality. *Jt Comm J Qual Patient Sf*. 2019;45:3-13.
Sandbrink F and Uppal R. The Time for Opioid Stewardship is Now. *Jt Comm J Qual Patient Sf*. 2019;45:1-2. Uritsky TJ, et al. Opioid Stewardship: Building on Antimicrobial Principles. *J Pain Palliat Care Pharmacother* 2020.

What is Stewardship?

"The responsible overseeing and protection of something worth caring for and preserving"

Brenn BR, et al. *Hospital Pediatrics*. 2016;6(9).

NQF Opioid Stewardship

NQF: National Quality Forum

Friedhelm S and Uppal R. The Time for Opioid Stewardship Is Now. *The Joint Commission Journal on Quality and Patient Safety*. 2019;45:1-2.

Available Literature

JOURNAL OF PAIN & PALLIATIVE CARE PHARMACOTHERAPY
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Taylor & Francis
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EDITORIAL

Opioid Stewardship: Building on Antibiotic Stewardship Principles

ABSTRACT
The opioid stewardship model is born out of the antimicrobial stewardship model, and thus there are many shared characteristics. Both opioid stewardship and antimicrobial stewardship are based on the principle that there is an indication for a particular medication in the right patient at the right time. As antimicrobial stewardship is in a later stage of development, looking at the two in parallel can lead to interesting learning and development opportunities for opioid stewardship. Two requirements of antimicrobial stewardship that need to be applied to opioid stewardship for optimum outcomes are the requirement for dedicated resources, more specifically a trained pharmacist, and a declaration that opioid stewardship is essential for health-system accreditation.

KEYWORDS
Opioid; antimicrobial; stewardship; pharmacist

Introduction

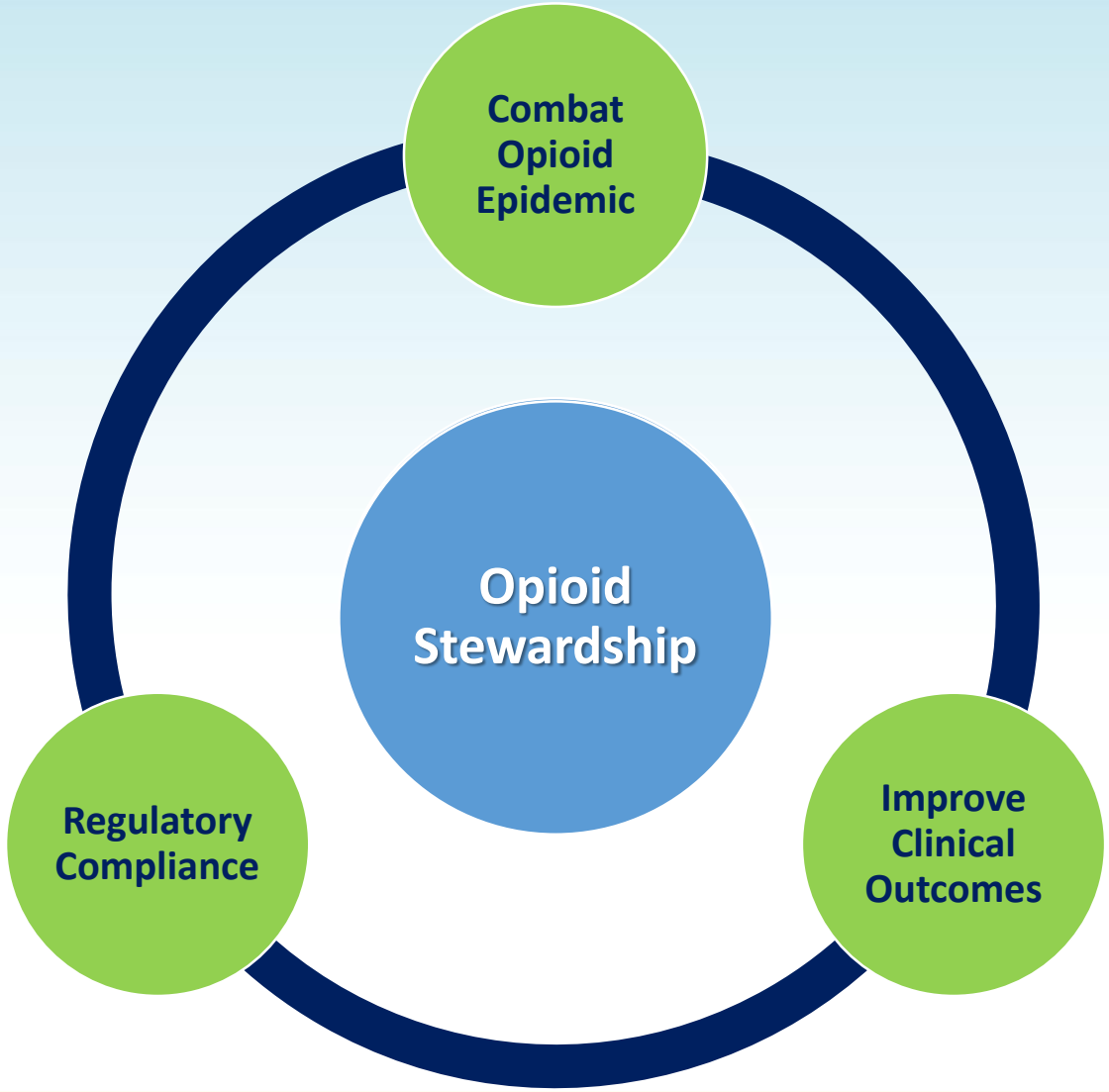
The term "stewardship" is defined as the job of supervising or taking care of something. It is a term found in [illegible] aspects of healthcare and [illegible] specifically in

Opioid stewardship history

In 2017, the US Department of Health and Human Services declared the opioid crisis a national emergency. Hospitals and healthcare systems are searching for and

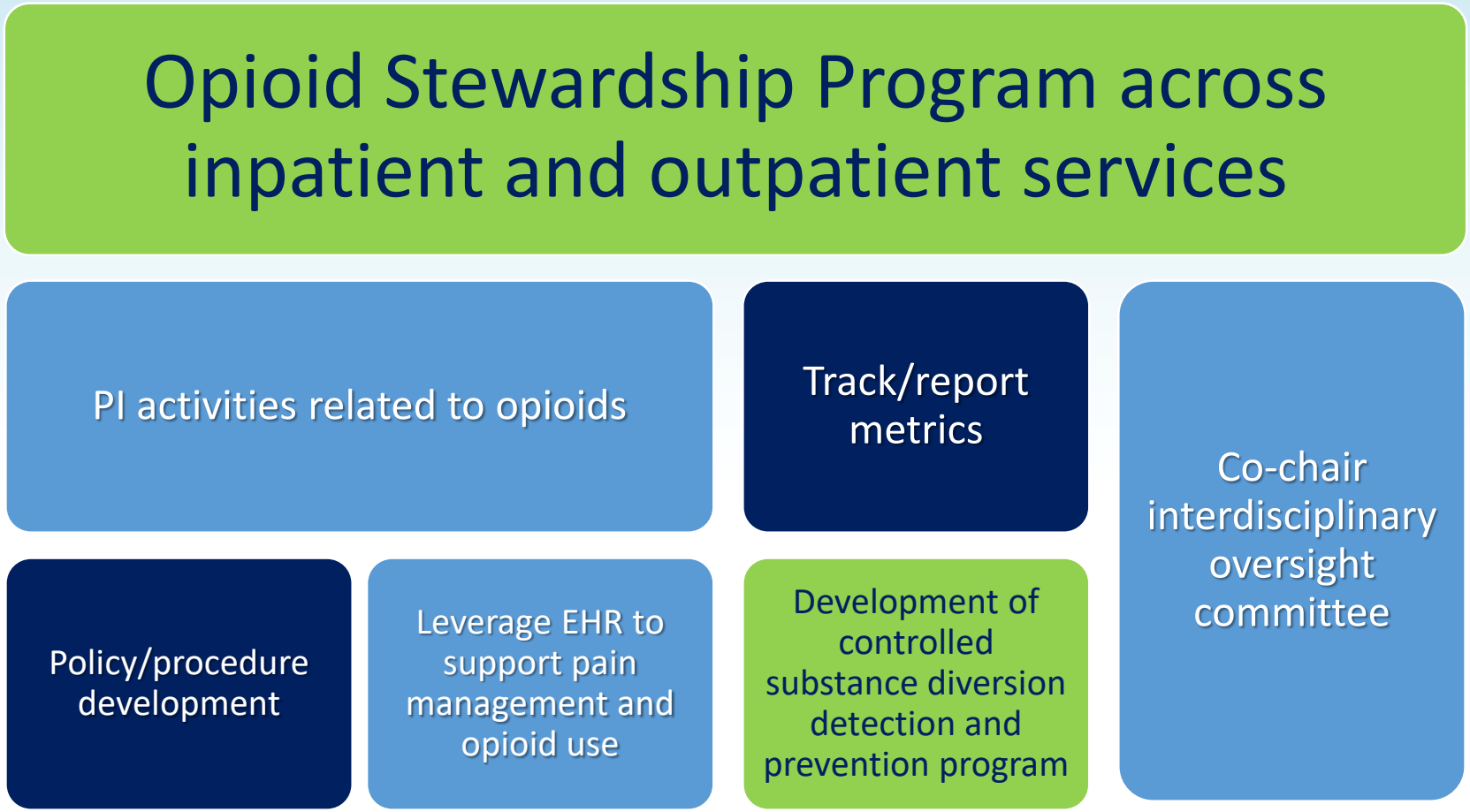
Uritsky TJ, et al. Opioid Stewardship: Building on Antimicrobial Principles. *J Pain Palliat Care Pharmacother* 2020.

Goals of Opioid Stewardship



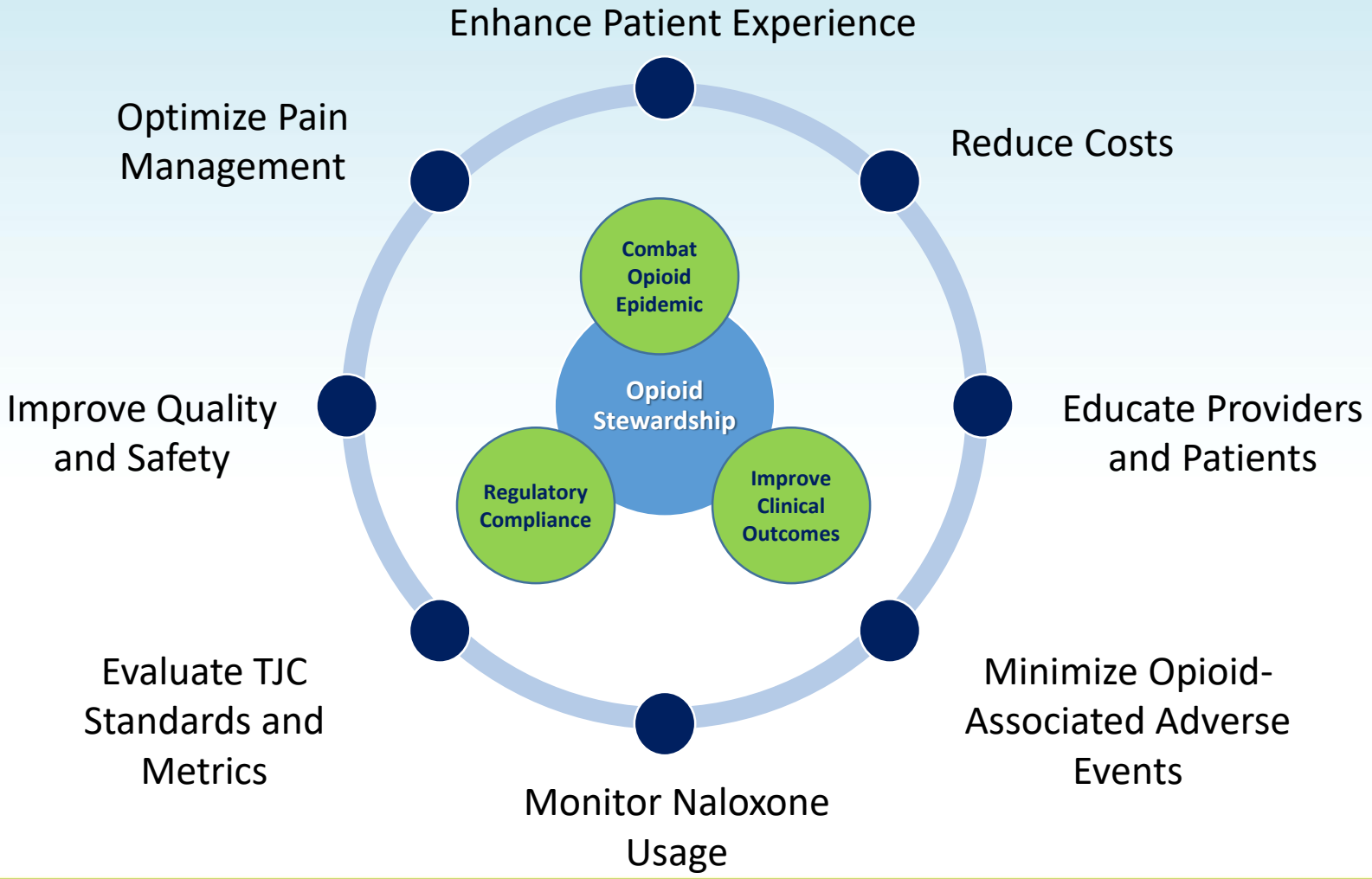
Friedhelm S and Uppal R. The Time for Opioid Stewardship Is Now. *The Joint Commission Journal on Quality and Patient Safety*. 2019;45:1-2.

Opioid Stewardship Position



PI: process improvement
EHR: electronic health record

Opioid Stewardship at Eskenazi Health

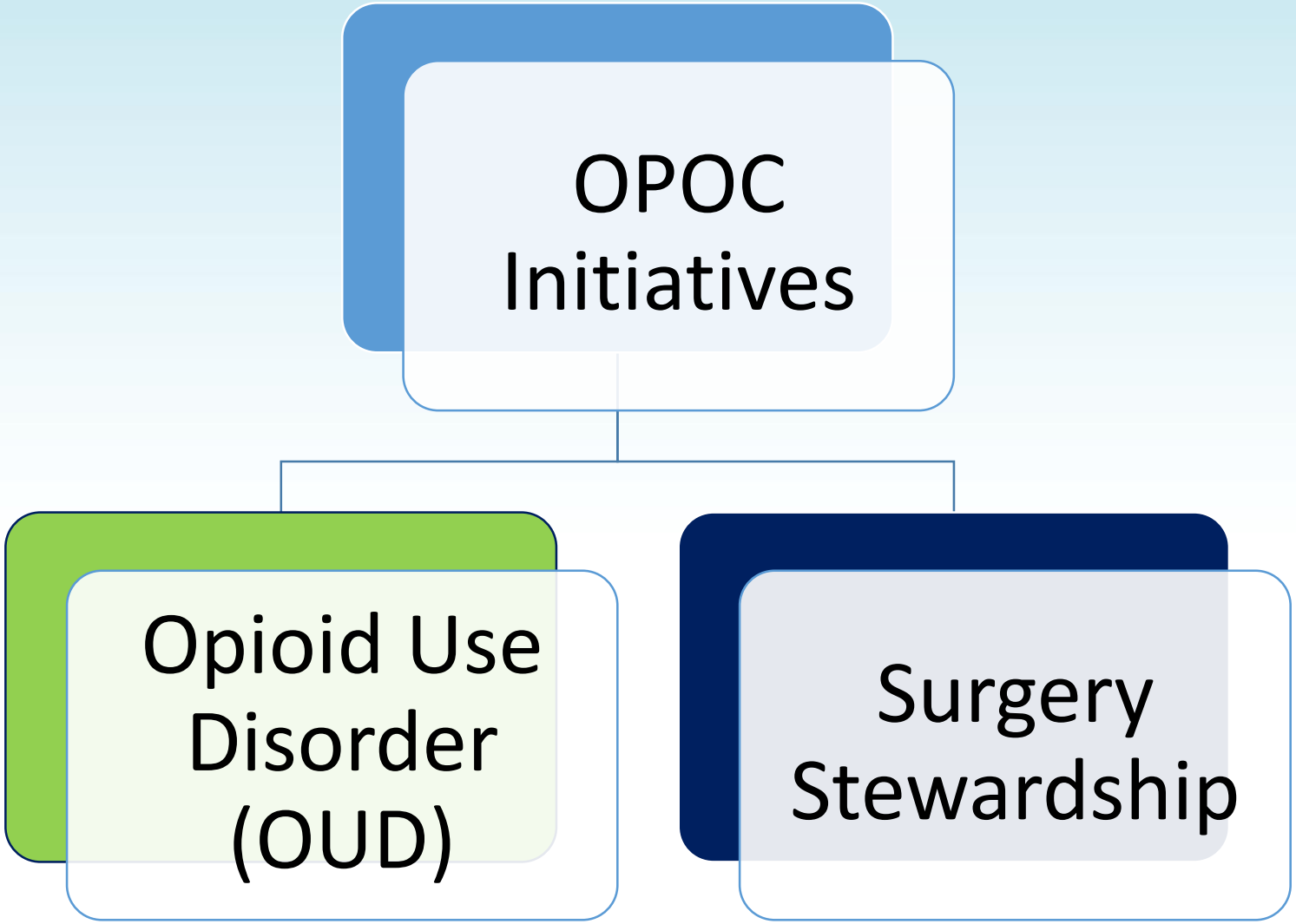


TJC: The Joint Commission

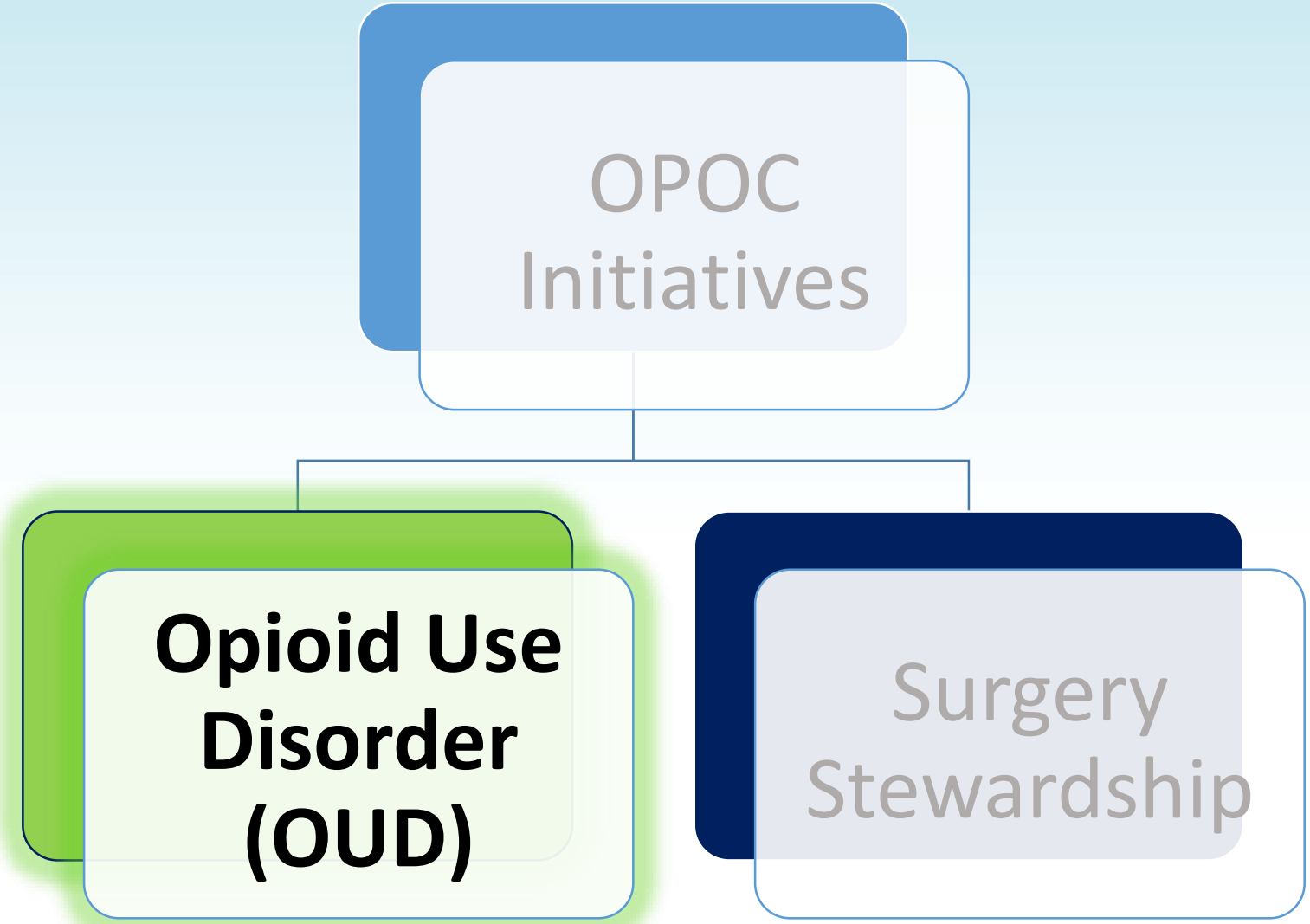
Opioid and Pain Management Oversight Committee (OPOC)

ICPS: Indianapolis Coalition for Patient Safety

OPOC Initiatives



OPOC Initiatives



What is Opioid Use Disorder?

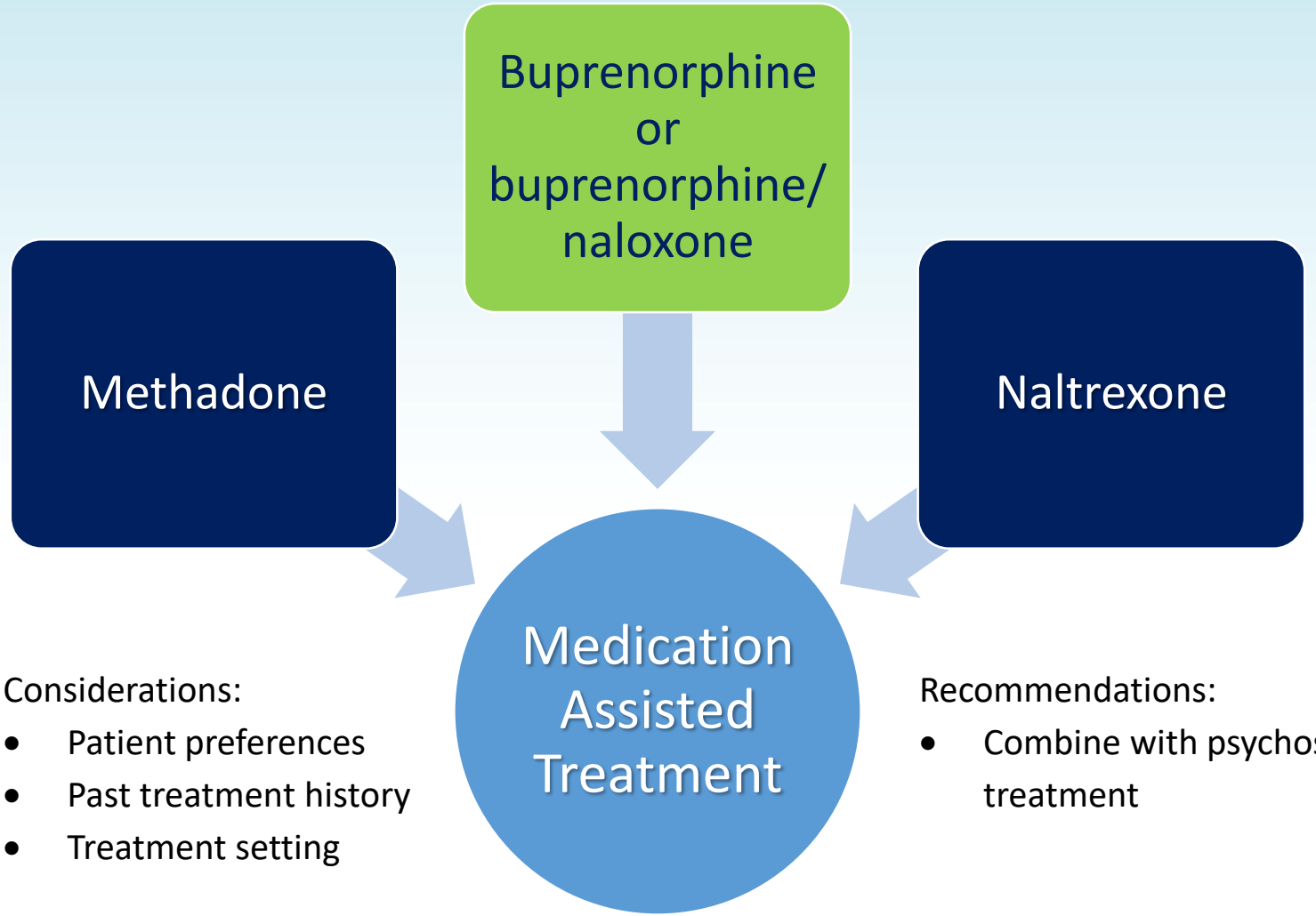
Problematic pattern of opioid use leading to clinically significant impairment or distress

https://pcssnow.org/resource/opioid-use-disorder-opioid-addiction/. Accessed November 25, 2019.

Opioid Use Disorder Treatment Approach

Hoffman KA, et al. Opioid use disorder and treatment: challenges and opportunities. *BMC Health Services Research*; 2019: 19:884.

Medication Assisted Treatment (MAT)



Considerations:

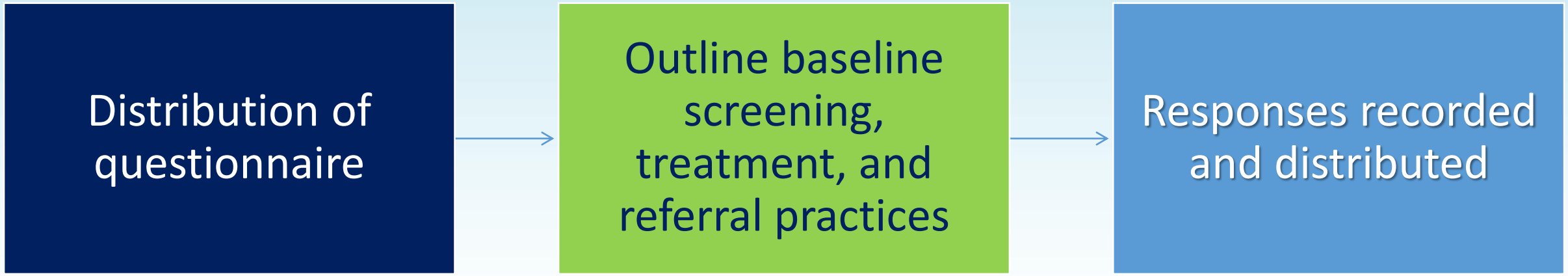
- Patient preferences
- Past treatment history
- Treatment setting

Recommendations:

- Combine with psychosocial treatment

Waller RC and Virva M, et al. Medication Assisted Treatment Guidelines for Opioid Use Disorders. MDCH 2014.
Cunningham C and Fishman M. The ASAM National Practice Guideline for the Use of Medications in the Treatment of Addiction Involving Opioid Use. Accessed August 26, 2019.

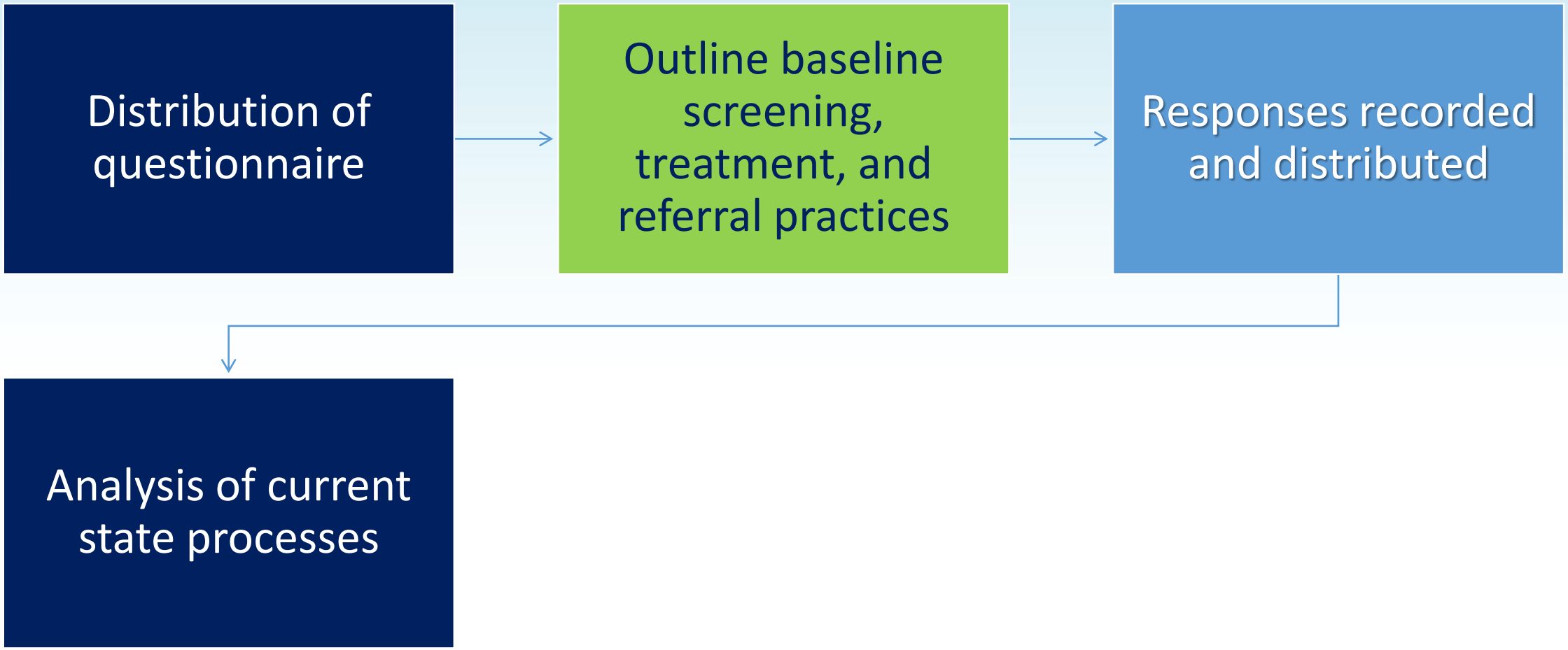
Determine Institution-Specific Processes



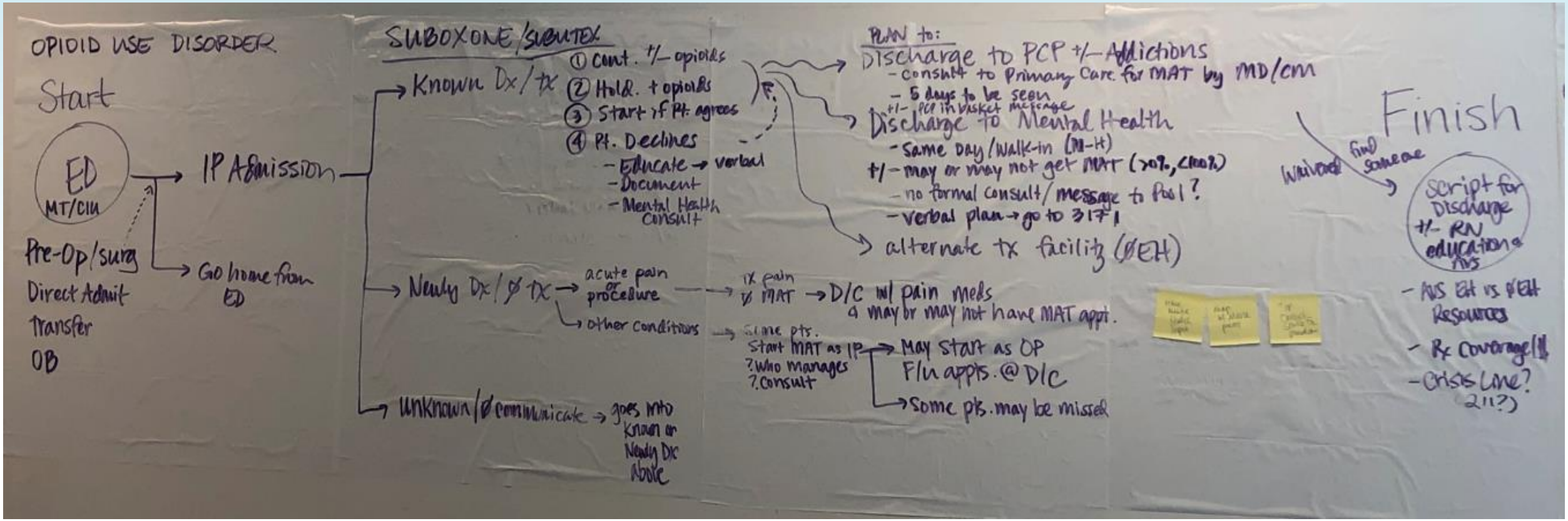
Questionnaire Responses

OPOC OUD Walkthrough Responses					
	MICU	**Ortho**	**ED/Project POINT**	**Midtown**	**Anesthesia/Pre-Op/PAT**
Patients screened for SUD?	Yes	No	Yes	Yes	Yes
Screening tools utilized?	Bedside nurses ask about SUD during admission	N/A	Recovery coaches	ANSA, SSI-AOD, Urica	Generic questionnaire (what drug? Last use? etc.)
Where is screening information documented?	Nursing admission assessment	N/A	Redcap, and FYI, notes in epic	ANSA in epic, other two being built	Charted in "arrival history" in epic
Screening targeted or universal?	Universal	?	?	Universal	Universal
Urine toxicology?	Yes	Yes	No	Yes	Yes
Determinants for ordering?	Based on clinical presentation and concern for illicit use	History of SUD		Random and ordered by MD. Ideally all patients tested 1-2 times per month.	If surgeons orders or if there is suspicion
Which assays ordered?	Drug screen, drugs of abuse, urine	UDS		Levels are provided on all drug screens	Urine toxicology and blood
How is decision made for that assay?	Only known option	Depends on specific substances testing for or if want to test for variety			If already ordered or if high urine tox level of suspicion by pre-op nurse
Processes to identify patient at risk for SUD					
Designated mental health/addictions contact?	No	Yes (refer to integrative pain or SE mental health)	Yes	Yes	No (leave it up to primary team or admitting team to make decision). Chronic pain physicians (Dr. Bhadha) will

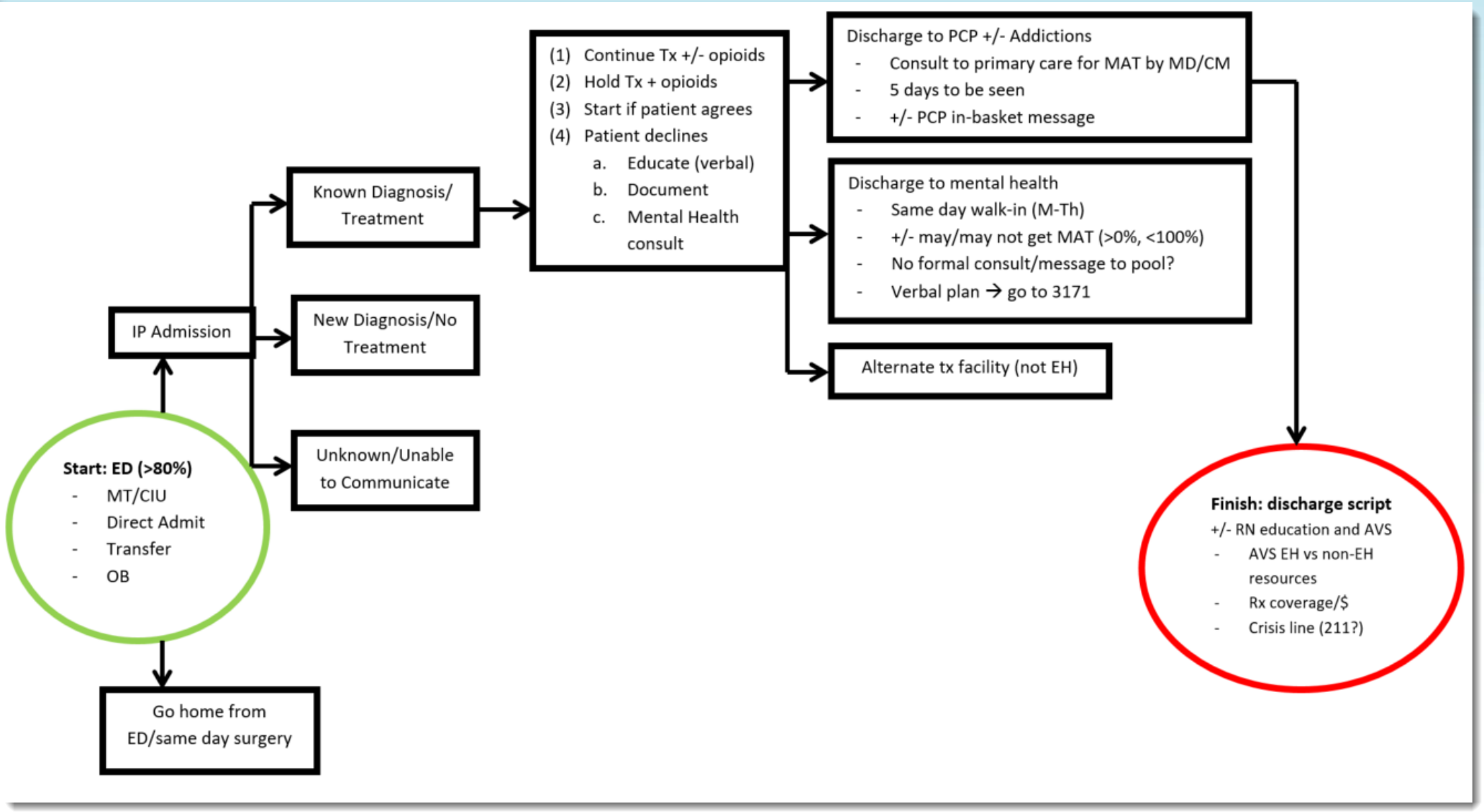
Determine Institution-Specific Processes



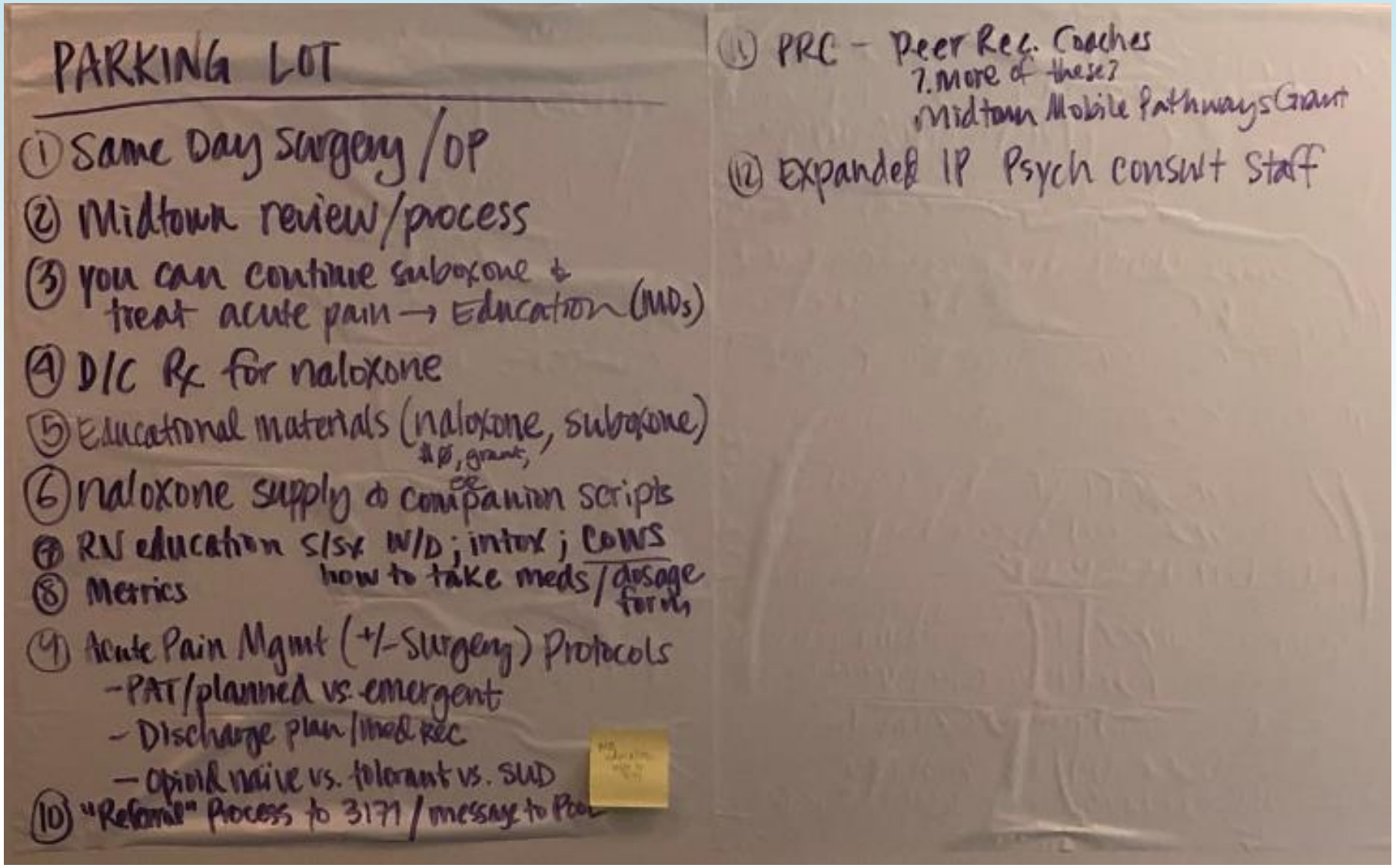
Current State Process Mapping



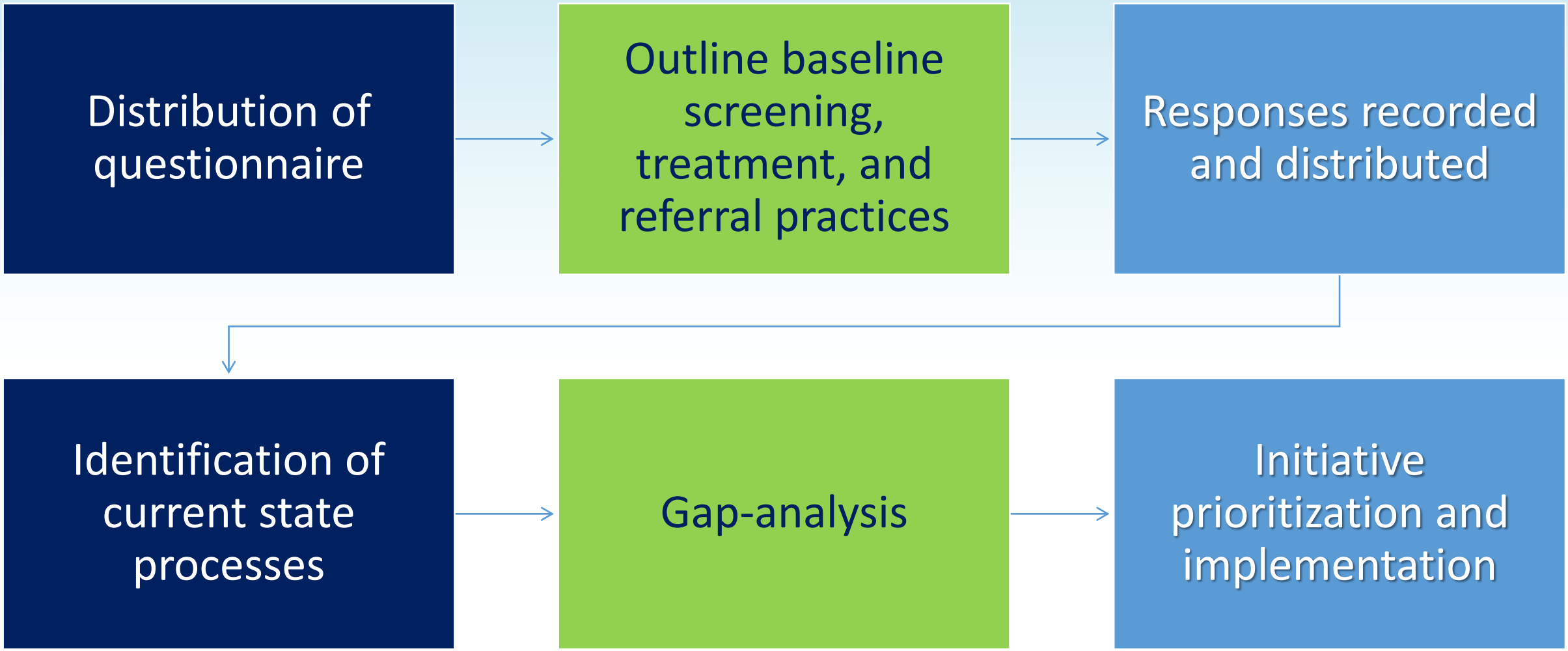
Process Mapping



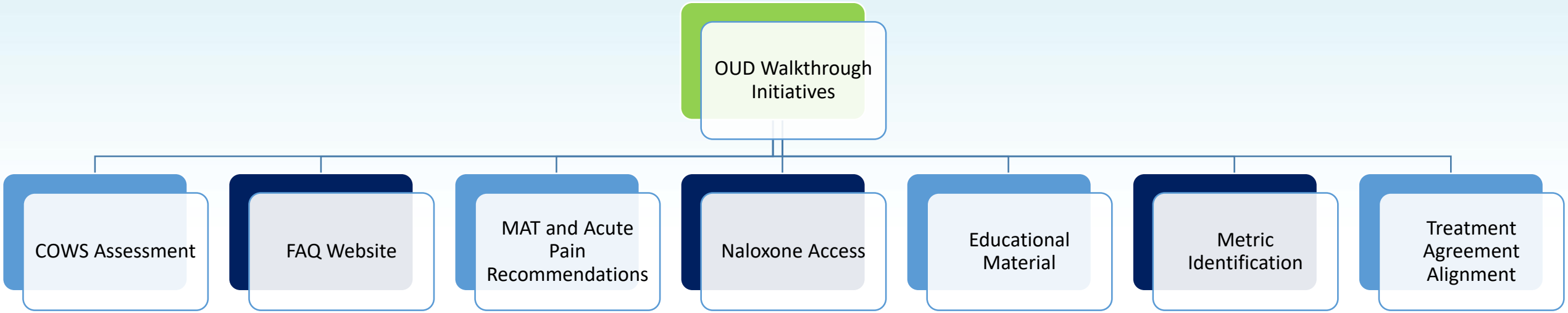
Parking Lot


PARKING LOT
1. Same Day Surgery / OP
2. Midtown review/process
3. you can continue suboxone & treat acute pain → Education (SUDs)
4. D/C Rx for naloxone
5. Educational materials (naloxone, suboxone) $Ø, grant;
6. naloxone supply & companion scripts
7. RN education S/Sx W/D; intox; COWS
8. Metrics
how to take meds / dosage forms
9. Acute Pain Mgmt (+/- Surgery) Protocols
- PAT/planned vs. emergent
- Discharge plan/med rec
- Opioid naive vs. tolerant vs. SUD
10. "Referral" Process to 3171 / message to Pool
11. PRC - Peer Rec. Coaches
? More of these?
Midtown Mobile Pathways Grant
12. Expanded IP Psych consult staff

Determine Institution-Specific Processes

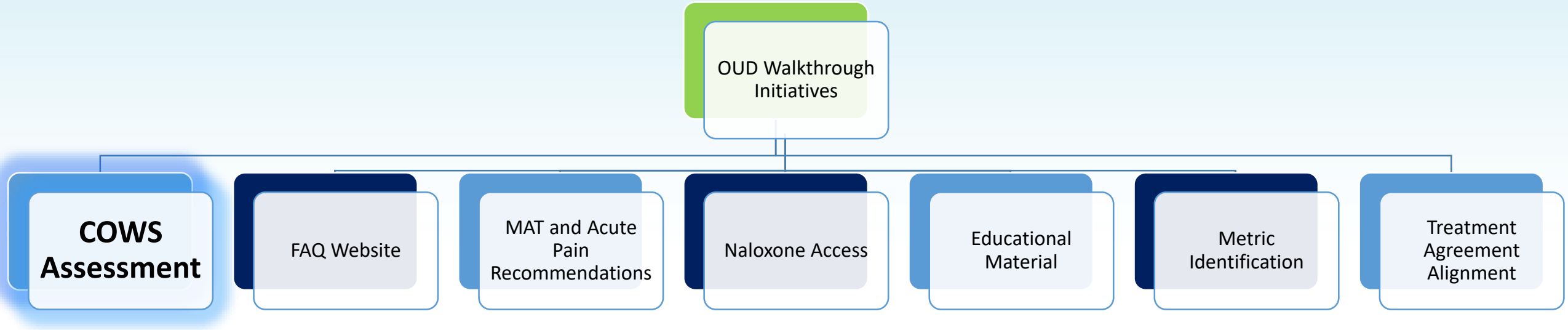


Gap Analysis Results



COWS: Clinical Opiate Withdrawal Scale
FAQ: Frequently Asked Questions

Gap Analysis Results



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ESKENAZI HEALTH

Order Sets

Opioid Withdrawal and Medication Assisted Treatment

Suggestions

Pneumonia

Pulmonary Embolism Treatment

Open Order Sets | Clear Selection | Remove Open

Orders

Order Sets

Clear All Orders

Opioid Withdrawal and Medication Assisted Treatment

Personalize

Nursing

Clinical Opioid Withdrawal Assessment

- Clinical Opioid Withdrawal Scale Assessment (screening)
  Once for 1 occurrence
- Clinical Opioid Withdrawal Scale Assessment
  Every 4 hours for 48 hours

Notify Provider

- Notify physician for Clinical Opioid Withdrawl Scale of greater to or or equal to 8
  Until discontinued, starting today at 1037, Until Specified
  For Clinical Opioid Withdrawal Scale of: greater to or or equal to 8
- Notify physician
  Until discontinued, starting today at 1037, Until Specified
  Specify: RR < 8

Medications

MAT Initiation (test dose)

Recommend initiating buprenorphine/naloxone once COWS ≥ 8 to avoid precipitating withdrawal.

- buprenorphine-naloxone (SUBOXONE) 2-0.5 mg dose ($$)
  1 tablet, sublingual, Once
- buprenorphine-naloxone (SUBOXONE) 4-1 mg dose ($$)
  2 tablet, sublingual, Once

MAT Titration

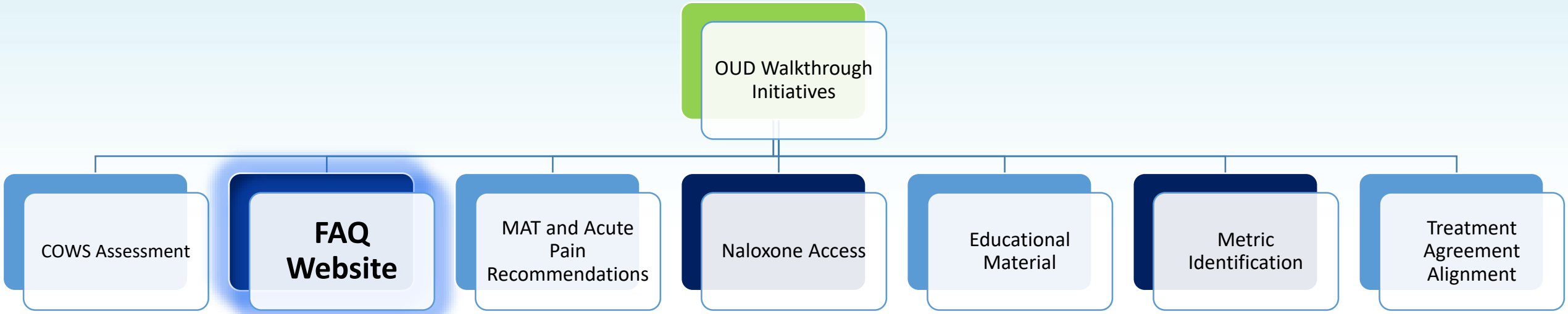
- MAT Day 1 - May repeat doses up to a total of 8 mg max on Day 1
  - buprenorphine-naloxone (SUBOXONE) 2-0.5 mg dose ($$)
    1 tablet, sublingual, Once
  - buprenorphine-naloxone (SUBOXONE) 4-1 mg dose ($$)
    2 tablet, sublingual, Once
- MAT Day 2 - May repeat doses up to a total of 16 mg max on Day 2

MAT Maintenance — Click for more

Opioid Detox — Click for more

Additional SmartSet Orders

Gap Analysis Results



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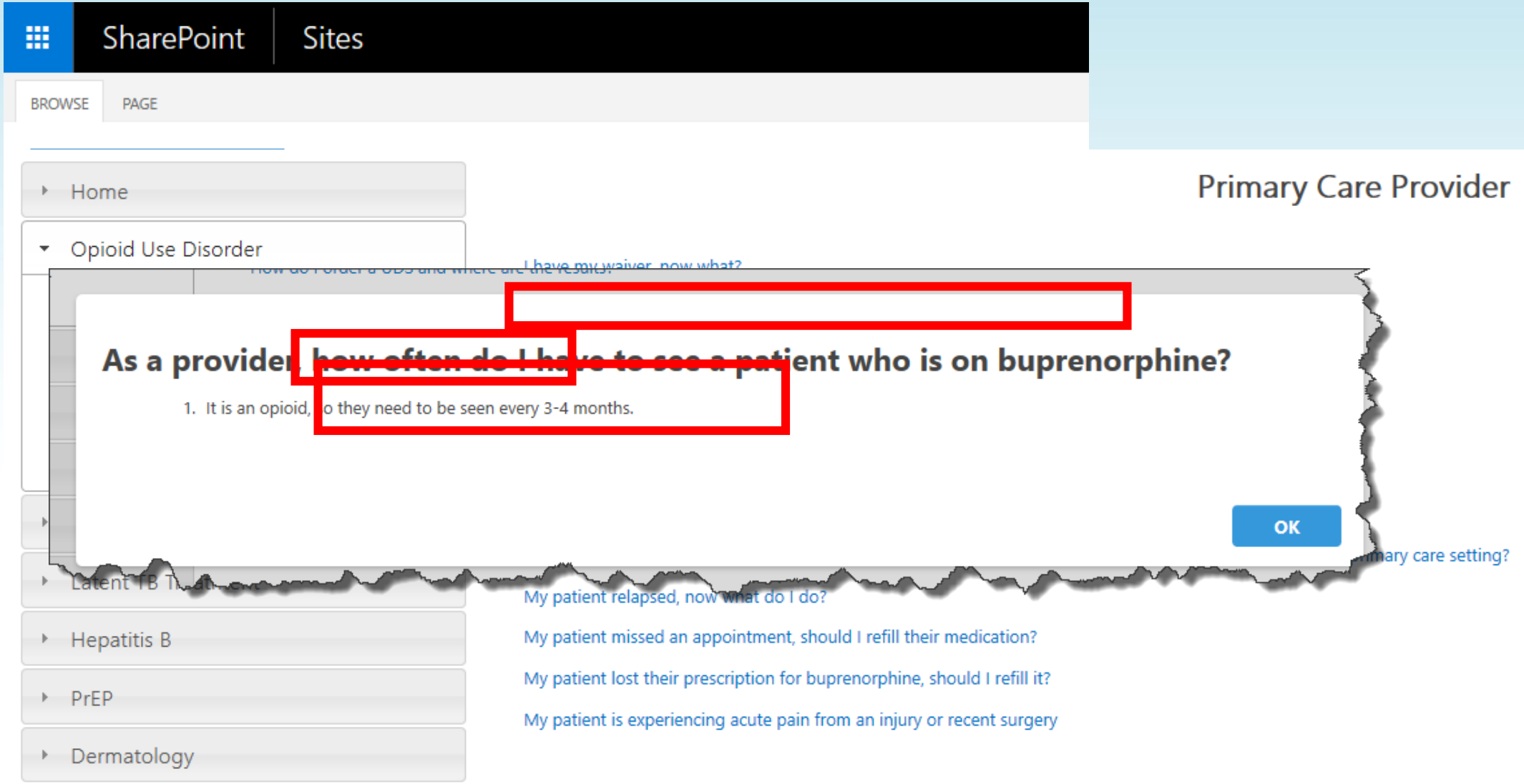
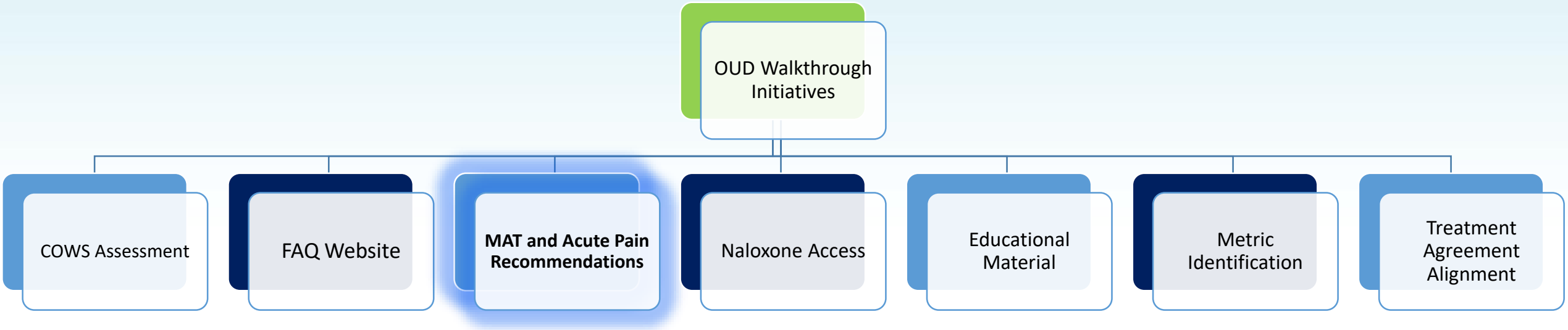
FAQ: Frequently Asked Questions

FAQ Website


SharePoint
Sites
BROWSE
PAGE
Home
Opioid Use Disorder
Hepatitis B
PrEP
Dermatology
Primary Care Provider
As a provider, how often do I have to see a patient who is on buprenorphine?
1. It is an opioid, so they need to be seen every 3-4 months.
OK
My patient relapsed, now what do I do?
My patient missed an appointment, should I refill their medication?
My patient lost their prescription for buprenorphine, should I refill it?
My patient is experiencing acute pain from an injury or recent surgery

Gap Analysis Results

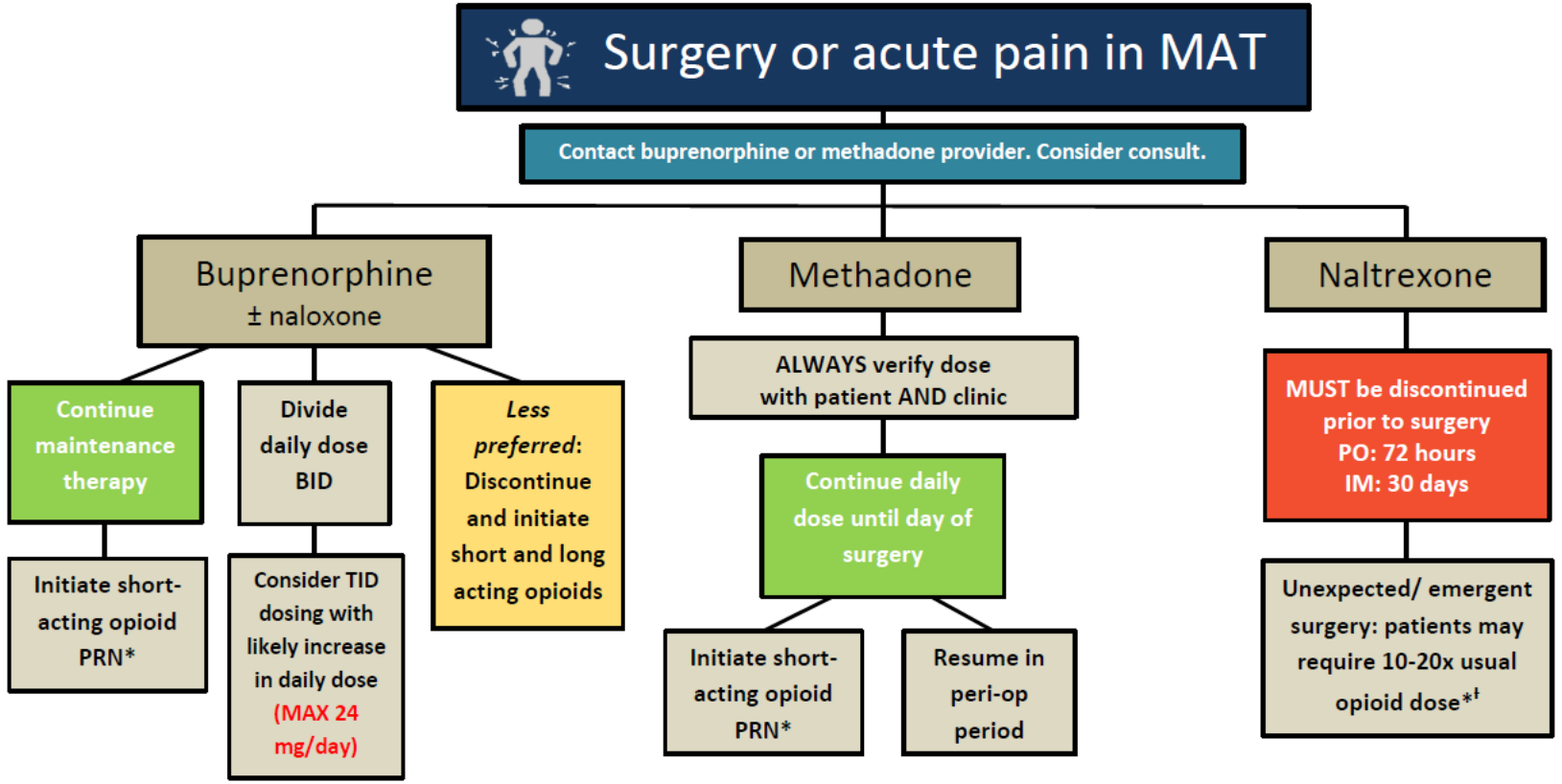


COWS: Clinical Opiate Withdrawal Scale
FAQ: Frequently Asked Questions

Medication Assisted Treatment (MAT)

Surgery and Acute Pain Algorithm

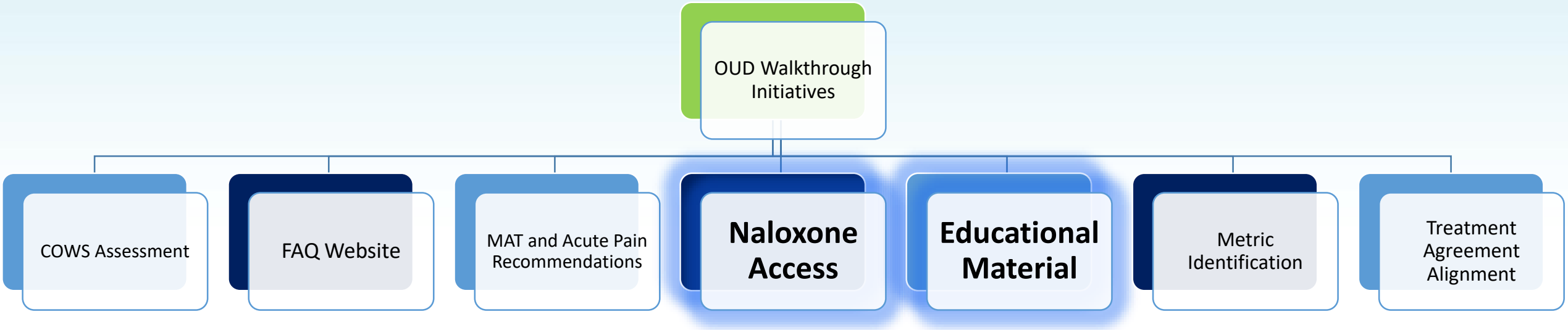
Summary:
Buprenorphine and methadone MAT should be continued during surgery or acute pain, and must be combined with multimodal analgesia (in accordance with ERAS protocols). Naltrexone must be discontinued, and in cases when this is not possible, extremely high doses of opioids may be necessary. *This algorithm does not apply to patients receiving these agents for anything other than substance use disorder.*



* If significant short-acting opioids are required, consider ICU or step-down observation
ǂ For exceptional pain requirements, consider consulting Acute Pain Service (APS)
^ Refer to Policy 701-3040 – *Guidelines for the Inpatient Use of Buprenorphine-Based Medications and Methadone in Patients with Opioid Use Disorder* for prescribing guidance

JG/MEB 09.2020

Gap Analysis Results



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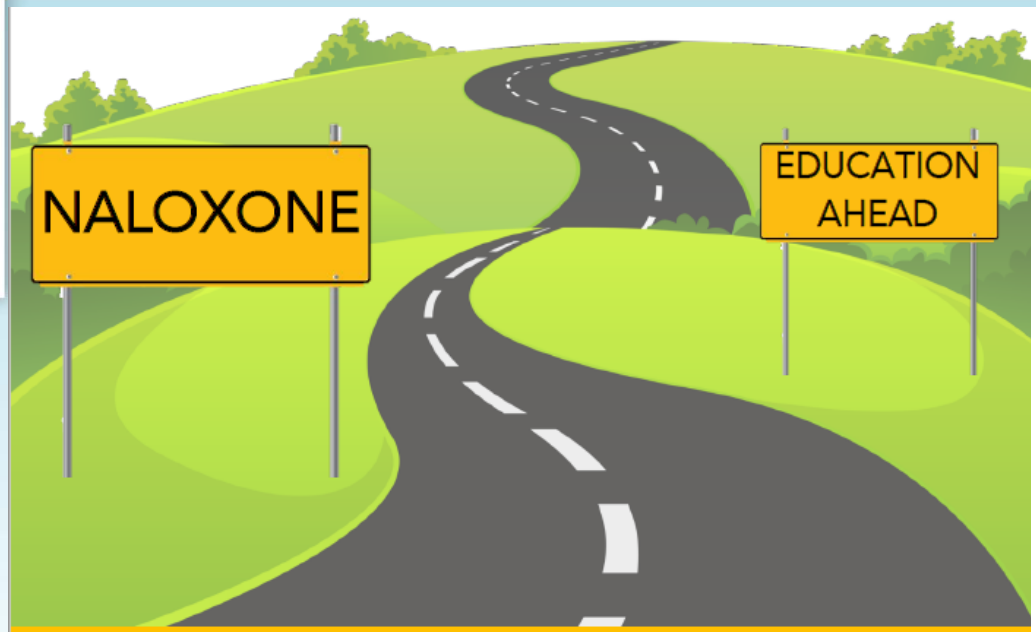
ESKENAZI HEALTH



Naloxone is like a seatbelt; most people don't need it, but it's there if they ever do.

WHAT IS NALOXONE?

A medication that temporarily reverses opioid overdose and can save lives

SIGNS OF OPIOID OVERDOSE

- Not moving and cannot be woken
- Slow or not breathing
- Blue lips and nails
- Tiny pupils
- Cold or clammy skin

WHO SHOULD NALOXONE BE CONSIDERED FOR?

- Naloxone should be considered for everyone taking an opioid, but especially those taking high opioid doses ≥ 50 morphine milligram equivalents (MME)
- Those being rotated from one opioid to another (due to risk of incomplete tolerance)
- Those taking an opioid who:
  - Smoke or have a respiratory illness (COPD, sleep apnea, asthma)
  - Have renal, hepatic, heart disease or HIV
  - Use alcohol, benzodiazepine, sedative or antidepressant
- History of opioid intoxication or overdose
- Those who live in a remote location
- Taking methadone or buprenorphine for opioid use disorder
- Suspected history of substance use or nonmedical opioid use

STEPS TO TAKE IN OPIOID OVERDOSE

CALL 911

SIGNS

NALOXONE

SIDE

EXPECT

1). Call for help (dial 911)
   - Emergency help should be requested immediately, even if the patient wakes up.

2). Check for signs of opioid overdose

3). Give naloxone and monitor response
   - If using the nasal spray, the patient should lie on their back. The patient's head should be tilted back gently, and the tip of the nozzle inserted into one nostril. Then, press the plunger firmly, spraying the naloxone into the nostril.

4). To prevent aspiration, the patient should be positioned on their side after naloxone is given

5). Patients may become agitated, combative or vomit after naloxone is given

MAXIMUM DOSE

- No well-established maximum dose
- Product labeling indicates dosing of 0.4 mg with repeat doses as necessary
  - Typically, patients will respond to the first dose, but some patients may need additional doses
  - Second doses often supplied as backup
  - Additional doses may be required when emergency help is delayed and initial naloxone dose wears off

AFTER ADMINISTRATION

- Naloxone works for 30-90 minutes, which is a shorter duration than most opioids
- Repeat doses every 2-3 minutes if symptoms return or patient does not respond and emergency help has not arrived
- Naloxone may precipitate withdrawal in opioid-dependent patients

SIDE EFFECTS

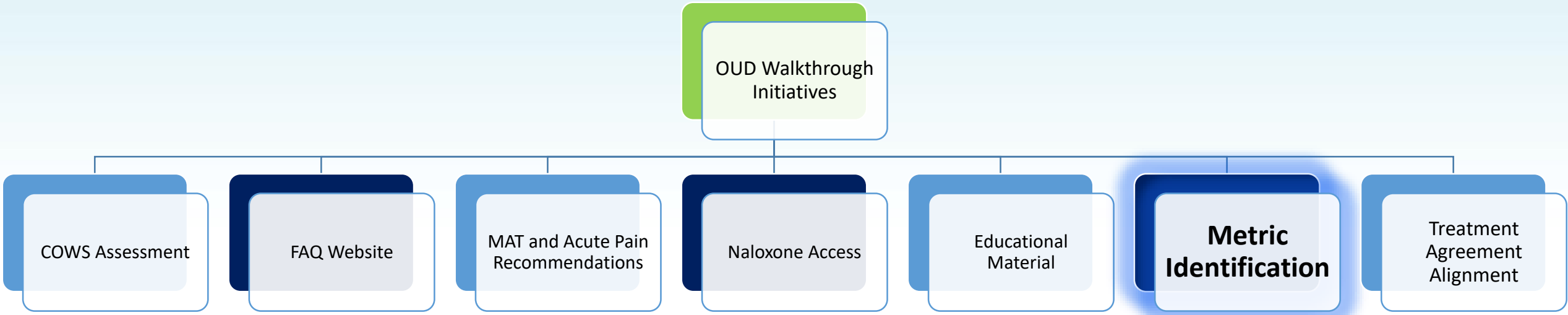
- Most patients return to spontaneous breathing with only mild withdrawal symptoms
- Expect opioid withdrawal symptoms: sweating, goosebumps, achiness, shivering, GI symptoms, irritability
  - This is not typically life-threatening

STORAGE

- Patients should carry naloxone products with them, or inform those they live with where it is kept
- If stored properly at room temperature and away from light, naloxone products should be effective until the manufacturer expiration date. Typically, the shelf life is 12-18 months.

1). Naloxone for Opioid Overdose (FAQs). Pharmacist's Letter Online. Therapeutic Research Center, Stockton CA. http://www.pharmacistsletter.com/. Accessed July 8, 2020.
2) Naloxone. Lexicomp Online®, Pediatric & Neonatal Lexi-Drugs Online®, Hudson, Ohio: Lexi-Comp, Inc.; Accessed July 8, 2020.
3) Product information Narcan nasal spray. Adapt Pharma. Radnor, PA 19087. February 2017.

Gap Analysis Results



COWS: Clinical Opiate Withdrawal Scale
FAQ: Frequently Asked Questions

OPOC Dashboard

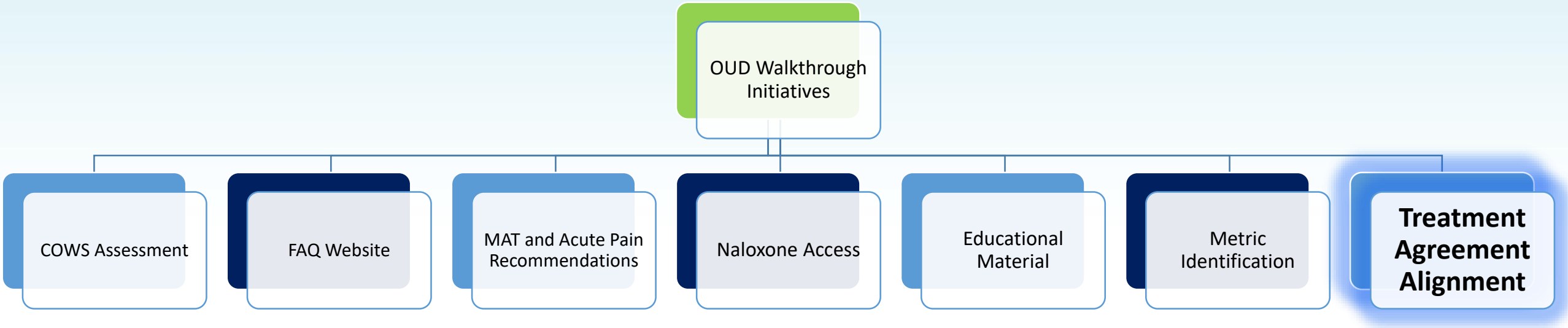
Opioid and Pain Management Oversight Committee

Setting	Measures	Jan-19	Feb-19	Mar-19	1Q2019	Apr-19	May-19	Jun-19	2Q2019	Jul-19	Aug-19	Sep-19	3Q20
Inpatient	Number of naloxone administrations/1000 opioid administrations	1.3	1	0.9	1.066666667	0.6	0.2	0.7	0.5	0.6	0.7	1.2	0.83333
	Number of patients written a prescription for any opioid at discharge (%)	6.51	6.08	5.86	6.14	6.2	6.29	5.72	6.07	5.93	6.24	6.25	6.14
Outpatient	Number of patients prescribed any opioid (%)	14.21	12.7	14.23	13.69	12.77	13.11	13.42	13.09	13.15	12.81	13.28	13.0
	Number of patients prescribed a chronic opioid (%)	8.1	8.65	8.87	8.53	9.24	9.83	9.67	9.58	8.4	7.17	5.93	7.18
	Average MME per day												
	Number of patients prescribed naloxone (%)	8.42	8.68	8.41	8.5	8.55	8.5	8.63	8.56	9.09	8.63	9.69	9.12
ED	Number of naloxone prescriptions or kits dispensed to patients with an overdose diagnosis from the ED												

Goals	**At or Better Than Target** (within goal)	**Area of Concern** (within goal, but in danger of not meeting goal next quarter)	**Not Meeting Target** (not within goal)

OPOC: Opioid and Pain Management Oversight Committee

Gap Analysis Results



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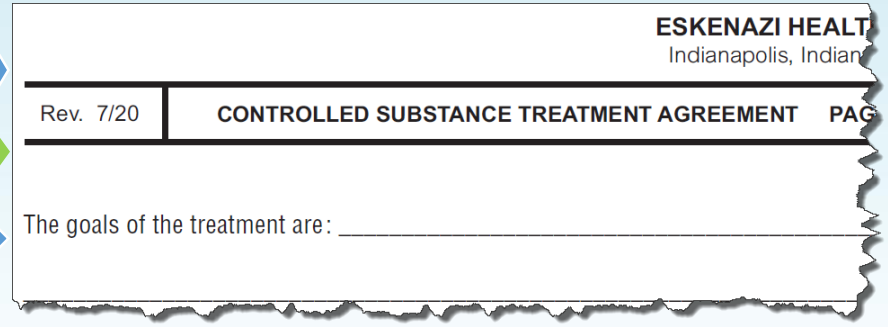
FAQ: Frequently Asked Questions

Treatment Agreement Alignment

Controlled Substance

- Primary Care
- Ortho Total Joint
- Senior Care



ESKENAZI HEALT
Indianapolis, Indian

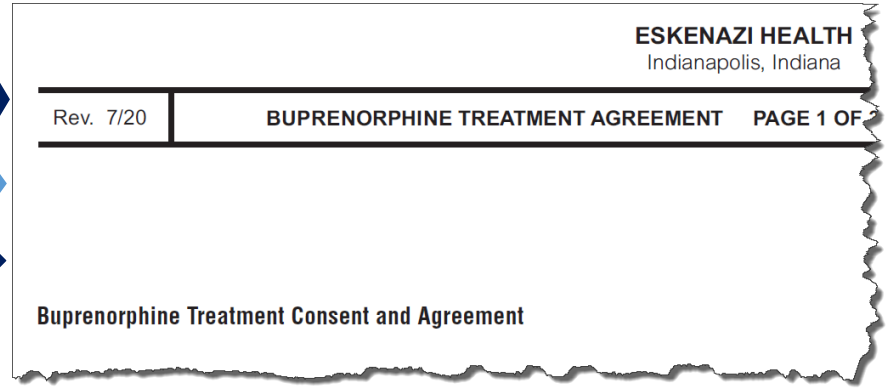
Rev. 7/20 | CONTROLLED SUBSTANCE TREATMENT AGREEMENT | PAG

The goals of the treatment are: _____

Single unified treatment agreement

Buprenorphine

- Primary Care
- Mental Health Center
- Pregnancy/Antenatal

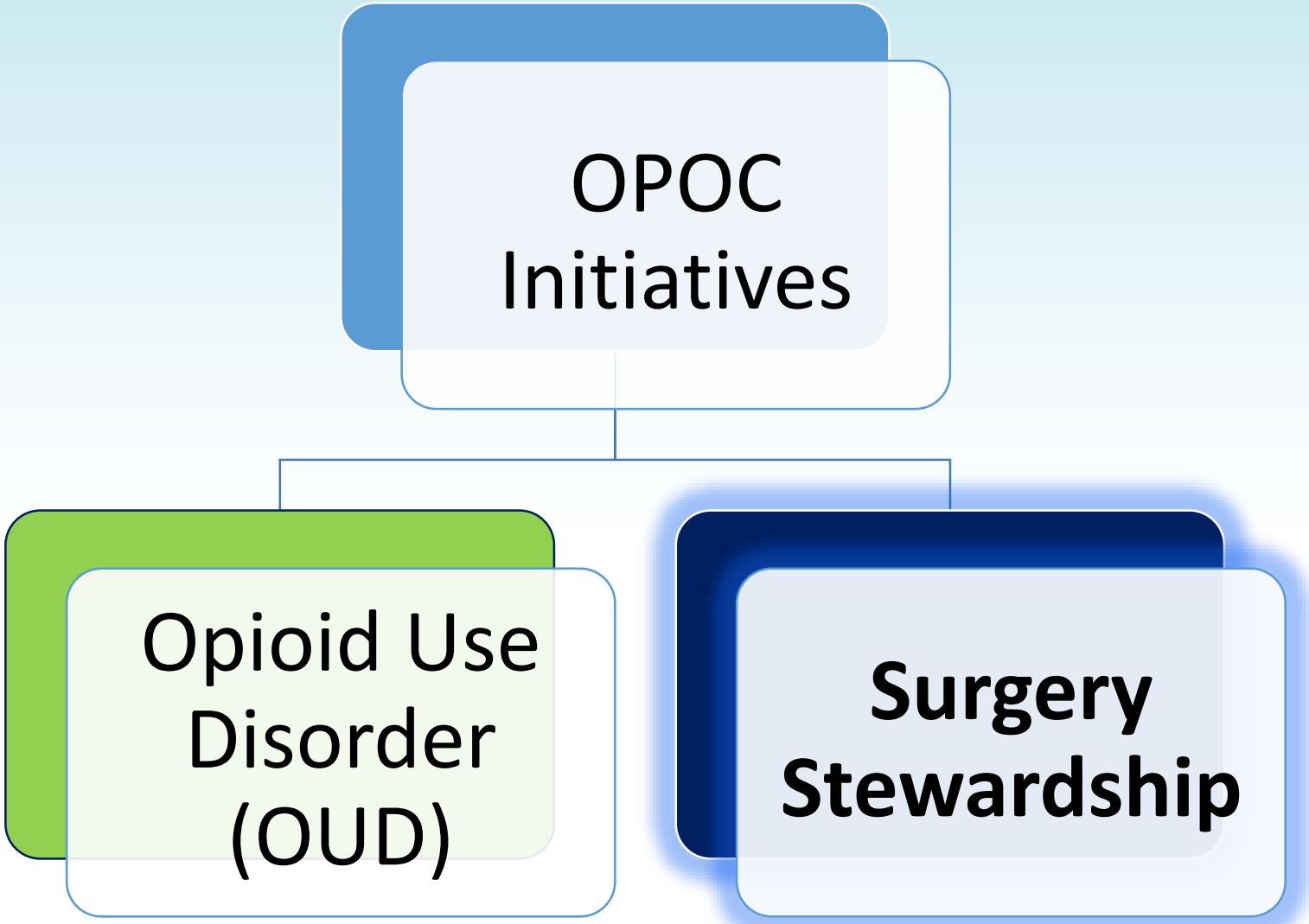


ESKENAZI HEALTH
Indianapolis, Indiana

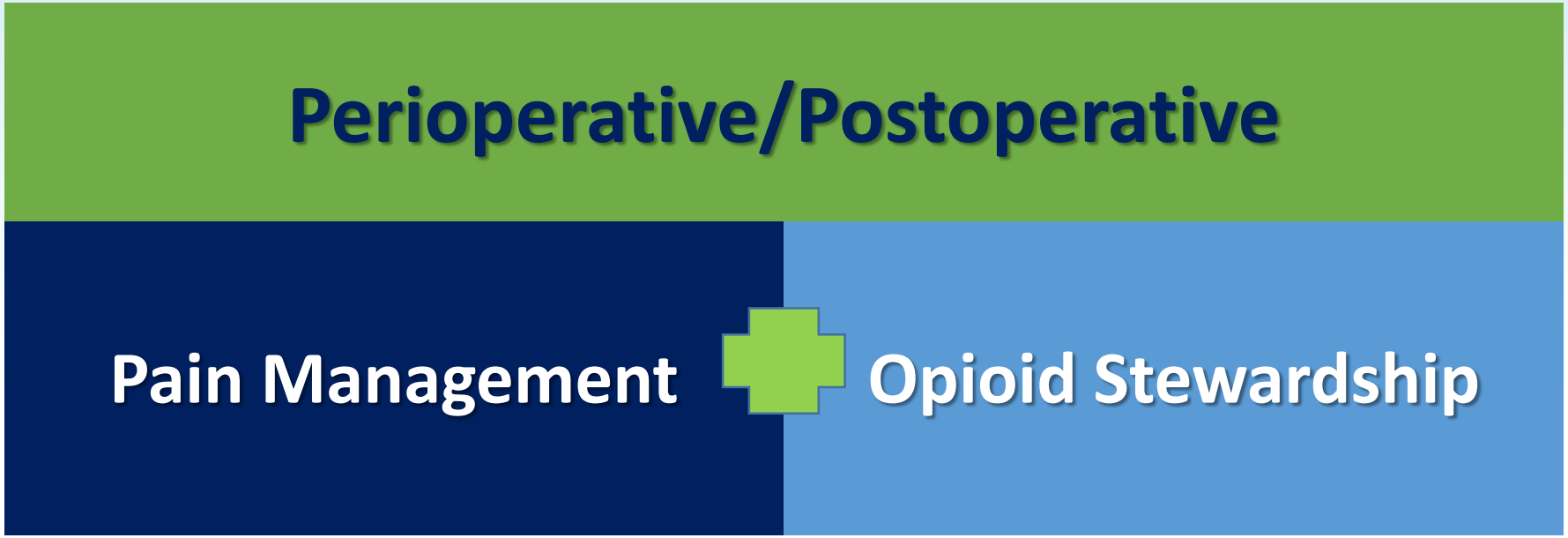
Rev. 7/20 | BUPRENORPHINE TREATMENT AGREEMENT | PAGE 1 OF

Buprenorphine Treatment Consent and Agreement

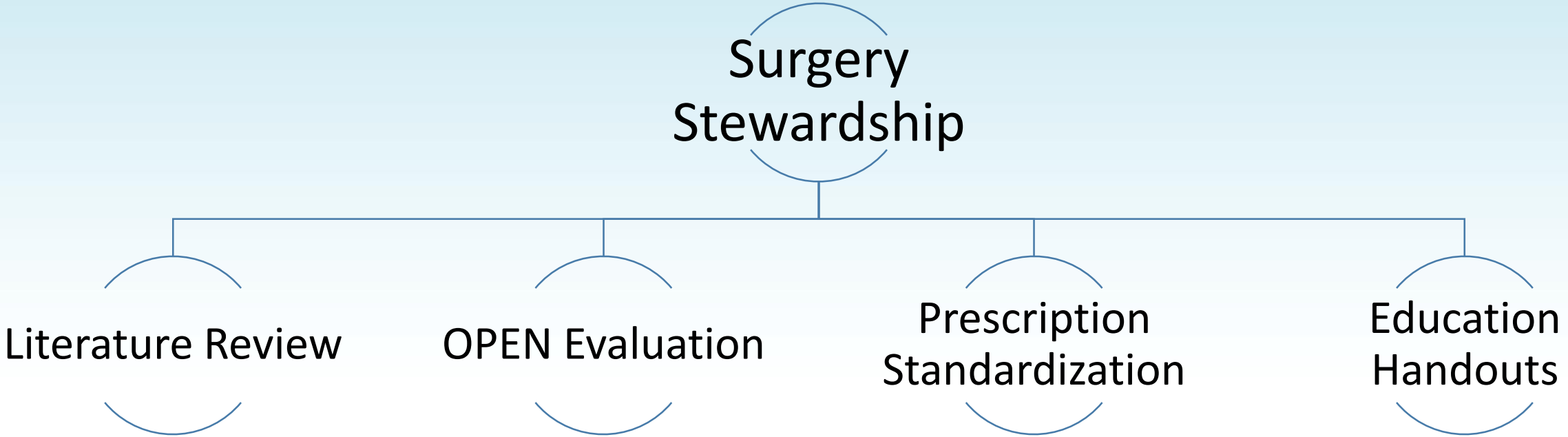
OPOC Initiatives



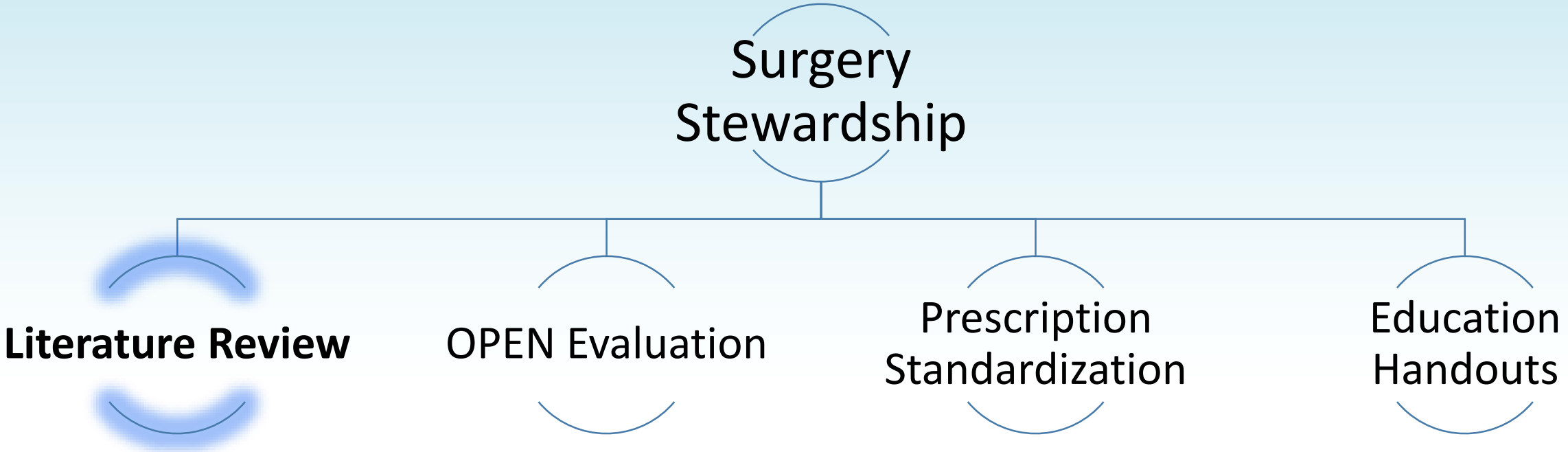
Where Stewardship Meets Pain Management



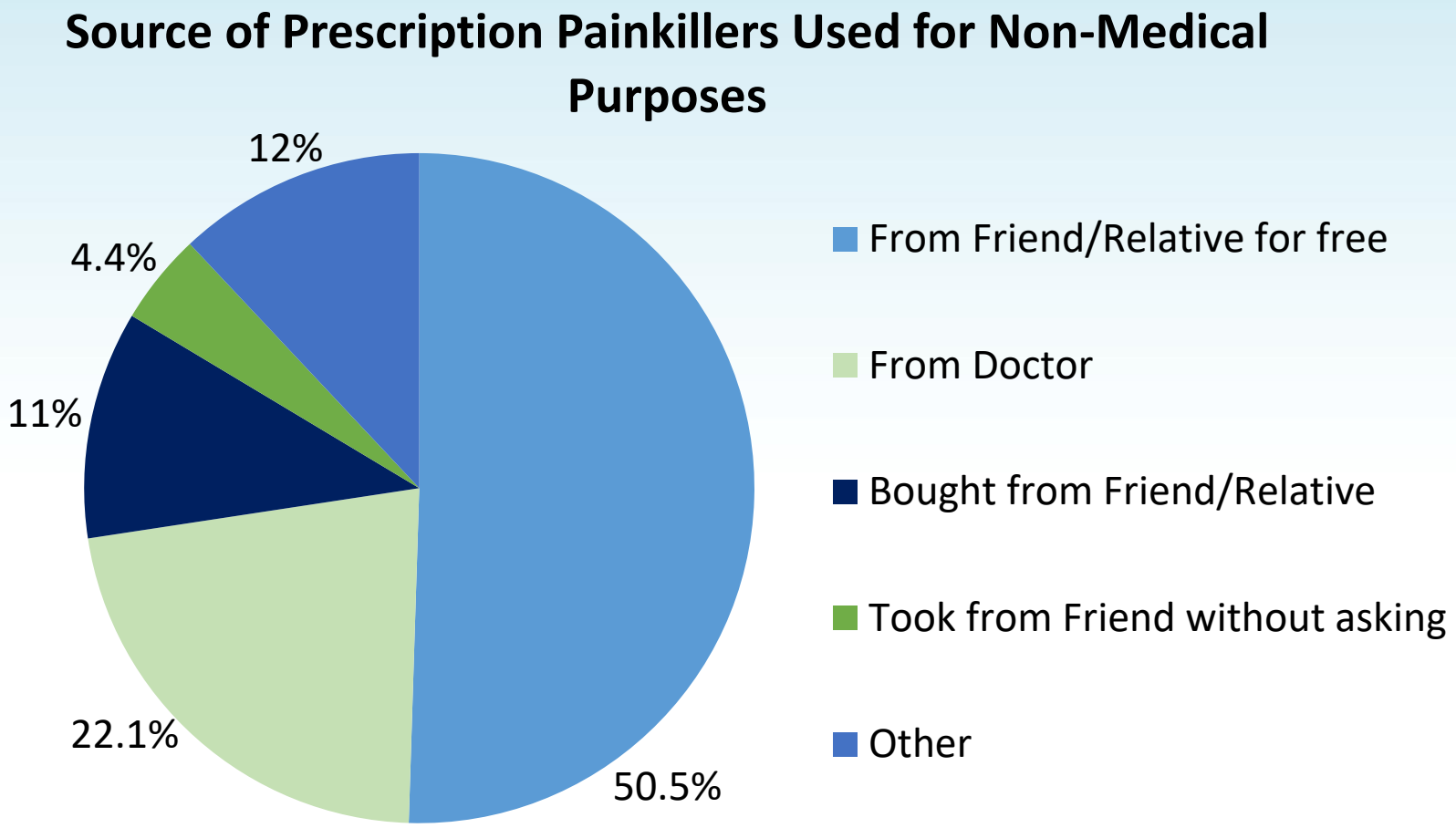
Surgery Stewardship



Surgery Stewardship



Opioid Abuse: Prescription Sources



Lipari RN, Hughes A. CBHSQ Report. https://www.samhsa.gov/data/sites/default/files/report_2686/ShortReport-2686.html. Published January 12, 2017. Accessed May 16, 2020.

Surgery Opioids by the Numbers

42-71%

prescribed postoperative opioid tablets go unused

10% TKA

13% THA

opioid-naïve patients continue to fill opioid prescriptions at 1 year postop

73%

postoperative joint and spine patients have unused opioid tablets at 1 month postop

8-12%

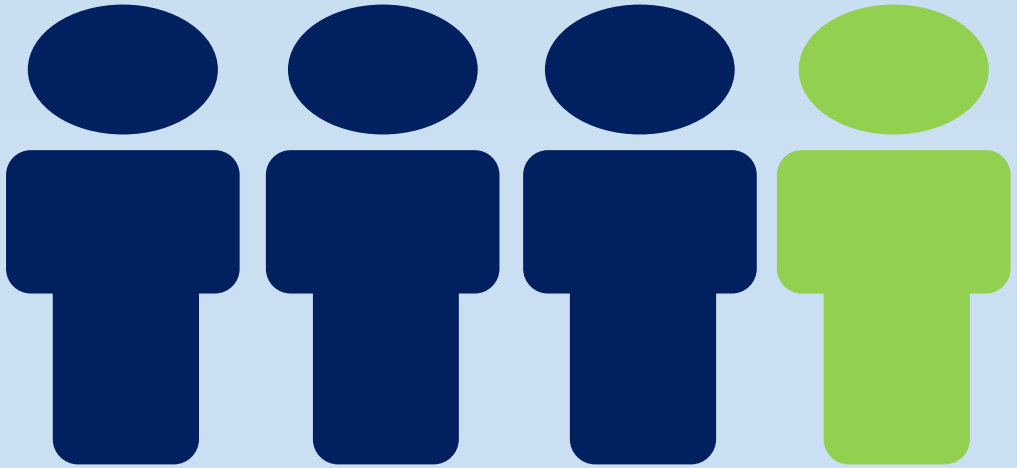
patients who are prescribed opioids by MD develop an opioid use disorder

Bicket MC, et al. *JAMA Surg.* 2017;152(11):1066-71.
Bicket MC, et al. *Anesth Analg.* 2019;128(2):358-64.

ESKENAZI HEALTH

Annual TJA Estimates:

1 in 4 Patients on chronic opioids "struggle with addiction"



4.3-8.2% opioid-naïve → persistent users

×

> 1 million TJA performed

=

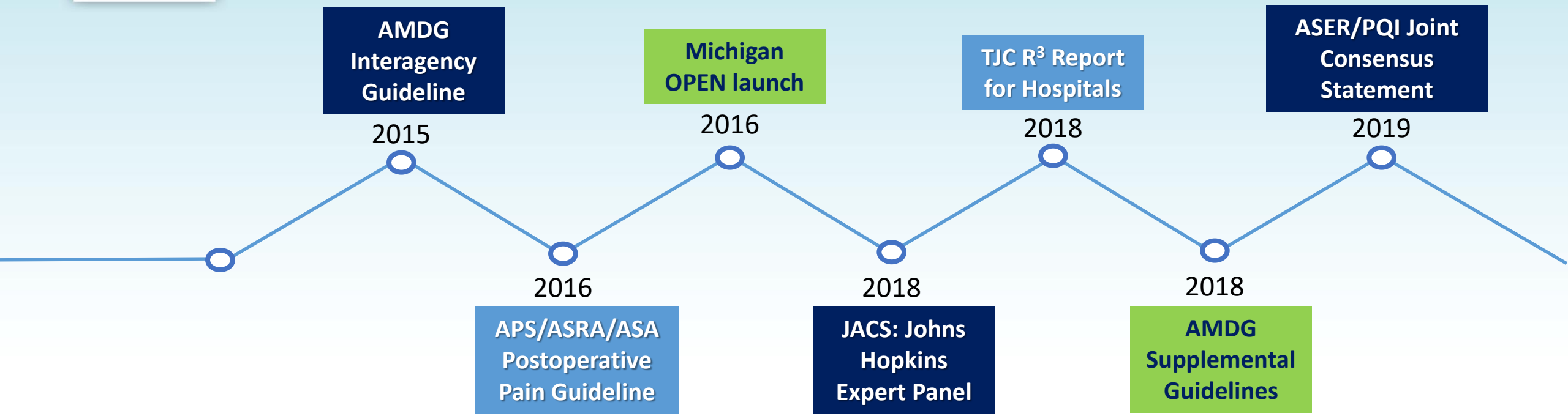
80,000 new chronic opioid users

20,000 new OUD patients ?!?

OUD: opioid use disorder
TJA: total joint arthroplasty

CDC, US DHHS. https://www.cdc.gov/drugoverdose/pdf/Guidelines_At-A-Glance-508.pdf. Accessed May 21, 2020
Goesling J, et al. *Pain*. 2016 157(6): 1259–65

Surgery Opioid Stewardship Timeline



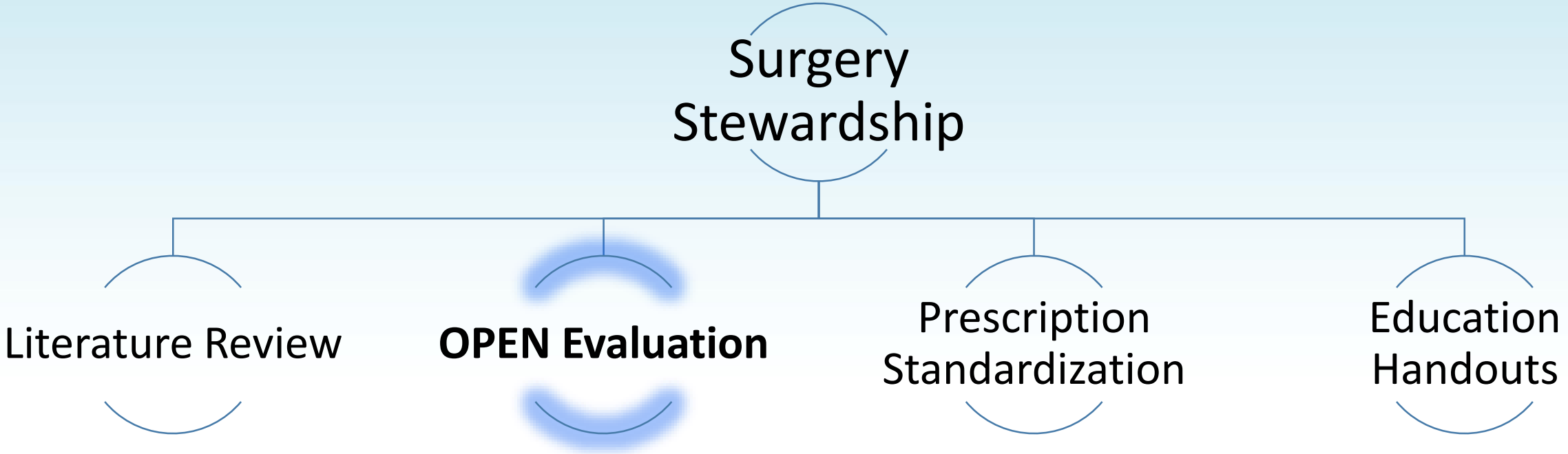
2012 – Present: ERAS® Society Recommendations, PROSPECT Guidelines

2016 – Present: Various State Laws

AMDG: Agency Medical Directors' Group, APS: American Pain Society, ASA: American Society of Anesthesiologists, ASER: American Society for Enhanced Recovery, ASRA: American Society for Regional Anesthesia and Pain Medicine, ERAS®: Enhanced Recovery After Surgery, JACS: Journal of the American College of Surgeons, OPEN: Opioid Prescribing Engagement Network, PQI: Perioperative Quality Initiative, PROSPECT: procedure-specific postoperative pain management collaborative, TJC R³: The Joint Commission Requirement, Rationale, Reference

Overton HN, et al. *J Am Coll Surg* 2018;227(4):411-8, https://agencymeddirectors.wa.gov/guidelines.asp. Accessed May 15, 2020.
Chou R, et al. *J Pain* 2016;17(2):131-57, https://michigan-open.org/prescribing-recommendations/. Accessed May 15, 2020. Edwards DA, et al. *Anesth Analg* 2019;129(2):553-66.

Surgery Stewardship



ESKENAZI HEALTH

OPEN
OPIOID PRESCRIBING ENGAGEMENT NETWORK

Prescribing Recommendations

Procedure	Oxycodone* 5mg Tablets
Dental Extraction	0
Thyroidectomy	0 - 5
Laparoscopic Anti-reflux (Nissen)	0 - 10
Appendectomy – Lap or Open	0 - 10
Laparoscopic Donor Nephrectomy	0 - 10
Hernia Repair – Minor or Major	0 - 10
Sleeve Gastrectomy	0 - 10
Laparoscopic Cholecystectomy	0 - 10
Open Cholecystectomy	0 - 15
Laparoscopic Colectomy	0 - 10

https://michigan-open.org/wp-content/uploads/2020/02/Prescribing_Recommendations_Table-_022520.pdf. Accessed August 25, 2020.

ESKENAZI HEALTH

Procedure	Oxycodone* 5mg Tablets
Prostatectomy	0 - 10
Carotid Endarterectomy	0 - 10
Cardiac Surgery via Median Sternotomy	0 - 25
Caesarean Section	0 - 20
Hysterectomy – Laparoscopic or Vaginal	0 - 15
Hysterectomy – Abdominal	0 - 20
Breast Biopsy or Lumpectomy	0 - 5
Lumpectomy + Sentinel Lymph Node Biopsy	0 - 5
Sentinel Lymph Node Biopsy Only	0 - 5
Wide Local Excision ± Sentinel Lymph Node Biopsy	0 - 20
Simple Mastectomy ± Sentinel Lymph Node Biopsy	0 - 20
Modified Radical Mastectomy or Axillary Lymph Node Dissection	0 - 30
Total Hip Arthroplasty	0 - 30
Total Knee Arthroplasty	0 - 50

Updated February 25, 2020

***If prescribing hydrocodone 5mg, the number of tablets remains the same as listed above.**

https://michigan-open.org/wp-content/uploads/2020/02/Prescribing_Recommendations_Table-_022520.pdf. Accessed August 25, 2020.

An Evaluation of Post-Operative Opioid Prescribing Patterns Compared to Recent Procedure-Specific Recommendations

Michelle E. Busch, PharmD, BCPS[1]; Christopher Bollinger, PharmD Candidate[1,2]; Rebecca Gerske, PharmD[1,2]; Morgan Ragsdale, PharmD[1,2]; Todd A. Walroth, PharmD, BCPS, BCCCP, FCCM[1]

[1]Eskenazi Health, Indianapolis, IN; [2]Butler University College of Pharmacy and Health Sciences, Indianapolis, IN

INTRODUCTION

- *JAMA Surgery* published a retrospective, multi-site, population-based analysis in 2019 that evaluated opioid prescribing and consumption patterns for patients undergoing 12 different surgical procedures.[1]
- Results prompted the Opioid Prescribing Engagement Network (OPEN) to publish a set of recommendations on the number of opioid tablets to be prescribed after specific surgical procedures for opioid-naive patients.
- OPEN recommends up to 20 tablets after cesarean section (C-section), 30 tablets after total hip arthroplasty (THA), and 50 tablets after total knee arthroplasty (TKA), 10 tablets after appendectomy, hernia repair, and cholecystectomy, 15 tablets after hysterectomy, 5 tablets after lumpectomy, and 20 tablets after mastectomy,[2] which are common surgical procedures at Eskenazi Health.

OBJECTIVE

- The purpose of this study was to evaluate Eskenazi Health's opioid prescribing patterns following these nine surgical procedures (C-section, THA, TKA, appendectomy, hernia repair, cholecystectomy, hysterectomy, lumpectomy, and mastectomy) compared to the published recommendations.

METHODS

Study Design

- Retrospective chart review utilizing electronic health record (EHR)
- Patients identified based on surgery type and date of surgery

Table 1. Study Period

Type of Surgery	Date of Surgery
C-section	03/01/2019 – 06/06/2019
THA and TKA	12/01/2018 – 06/06/2019
Appendectomy	11/01/2018 – 06/30/2019
Hernia repair	10/01/2018 – 05/01/2019
Cholecystectomy	12/01/2018 – 04/01/2019
Hysterectomy	06/01/2018 – 05/31/2019
Simple mastectomy	06/01/2018 – 05/31/2019
Lumpectomy	10/01/2018 – 08/31/2019

Data Collection

- Patient medical record numbers used to search EHR for demographic information and opioid prescription
- INSPECT (Indiana's prescription drug monitoring program) used to obtain fill data and determine if opioid tolerant (defined as patient who filled an opioid within last 90 days) or opioid naïve

Statistical Analysis (using MiniTab 16.0)

- Continuous, non-parametric data analyzed using Mann-Whitney U
- Dichotomous variables analyzed using Fisher's exact or Chi-square

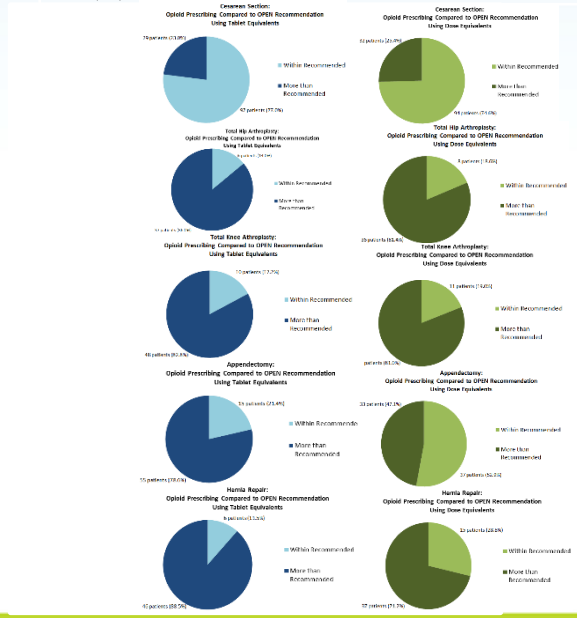
RESULTS

- Primary outcome was number of tablet equivalents prescribed over OPEN recommendations.
- Secondary outcomes included dose equivalents prescribed over OPEN recommendations and dose equivalents prescribed per day over 5 days.
- Subset analysis conducted comparing prescribing differences between opioid-naive and opioid-tolerant patients.

Table 2. Patient Characteristics

	n	Age*	Male	History of substance abuse	Concurrent benzo use
C-section	126	31 (25-35)	0 (0.0%)	9 (7.1%)	0 (0.0%)
THA	43	60 (56-68)	18 (41.9%)	3 (7.0%)	4 (9.3%)
TKA	58	58 (54-66)	16 (27.6%)	8 (13.8%)	6 (10.3%)
Appendectomy	70	33 (25-45)	44 (62.0 %)	3 (4.2 %)	0 (0.0 %)
Hernia repair	52	53 (37-59)	48 (92.3%)	7 (7.7%)	0 (0.0%)
Cholecystectomy	68	38 (30-47)	16 (23.5%)	7 (10.2%)	1 (1.5%)
Hysterectomy	63	43 (40-49)	0 (0.0%)	4 (6.3%)	0 (0.0%)
Simple mastectomy	42	49 (34-59)	4 (9.5%)	4 (9.5%)	1 (2.3%)
Lumpectomy	42	64 (55-68)	0 (0.0%)	1 (2.3%)	0 (0.0%)

*Median (IQR). All other data reported as n (%).



RESULTS (cont.)

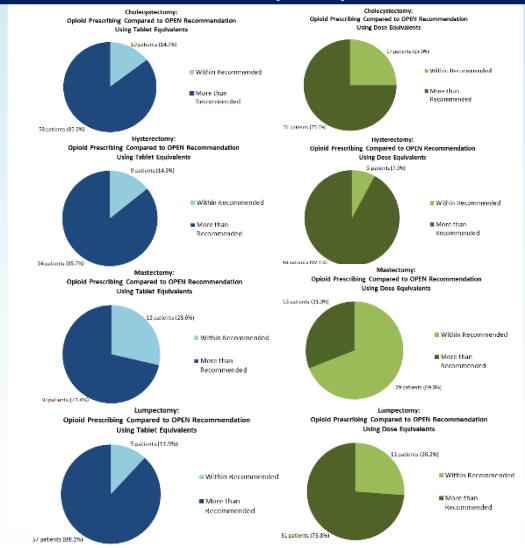


Table 3. Subset Analysis Comparing Opioid Tolerant versus Naïve Patients All Surgeries

	Opioid Naïve (n = 444)	Opioid Tolerant (n = 120)	p value
Median tablet equivalents (IQR)	20 (2,20)	42 (5,42)	< 0.001
Median MME equivalents (IQR)	100 (10,100)	315 (30,315)	< 0.001
Median MME/day (IQR)	20 (2,20)	63 (6,63)	< 0.001

CONCLUSIONS

- Majority of patients were over-prescribed opioid tablets in all surgeries assessed and dose equivalents in all surgeries except appendectomy and mastectomy compared to OPEN recommendations.
- Opioid naïve and opioid tolerant patient comparisons showed a statistically significant difference between the total number of tablet equivalents prescribed.
- Our results support the need for internal opioid prescribing guidelines. We plan to use these results to guide interventions and educational initiatives to improve our prescribing practices and follow published recommendations.

REFERENCES

1. Howard R, Fry B, Gunaseelan V, et al. Opioid prescribing and consumption after surgery in Michigan. JAMA Surg. 2019;154(1):1-8.
2. Prescribing recommendations. Opioid Prescribing Recommendations for Opioid-naive Patients website. https://www.opioidprescribing.info/. Accessed April 19, 2020.

DISCLOSURES

Authors of this presentation have nothing to disclose concerning possible financial or personal relationships with commercial entities that may have a direct or indirect interest in the subject matter of the presentation.

An Evaluation of Post-Operative Opioid Prescribing Patterns Compared to Recent Procedure-Specific Recommendations

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Simple mastectomy	06/01/2018 – 05/31/2019
Lumpectomy	10/01/2018 – 08/31/2019

Data Collection

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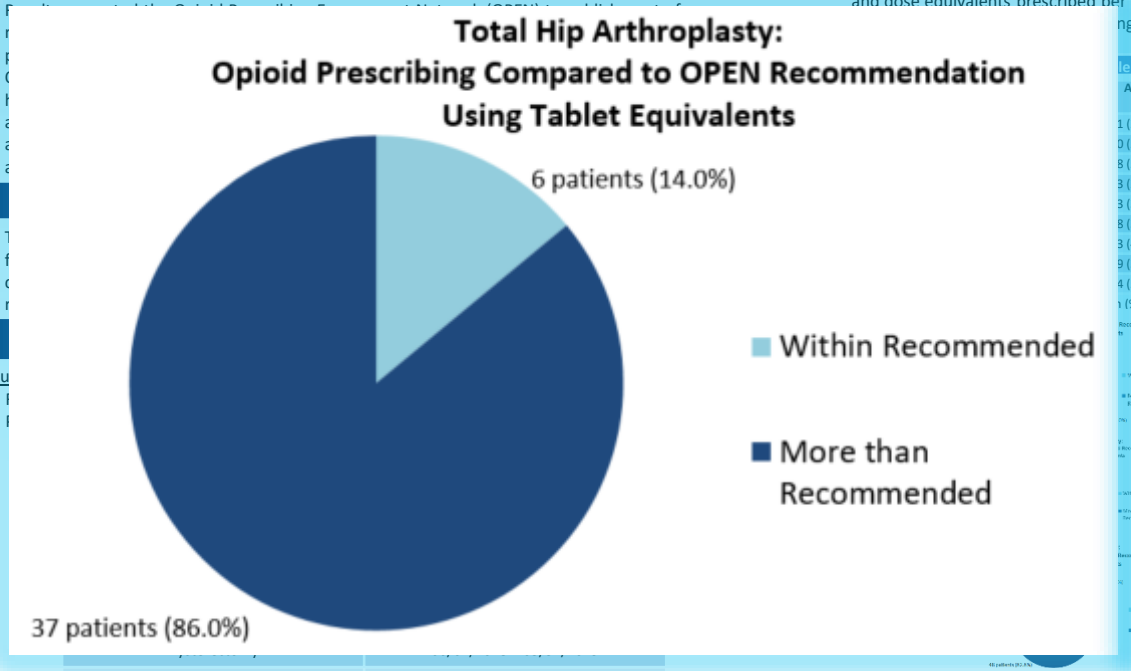

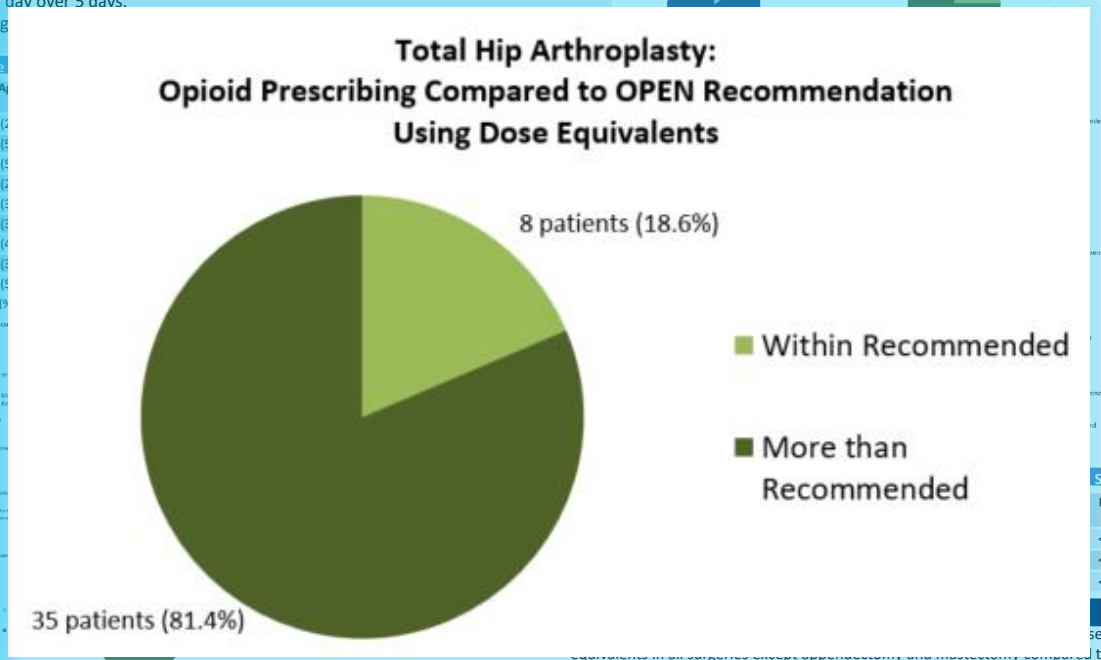

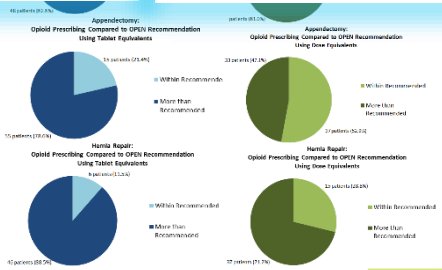

RESULTS (cont.)

Surgeries	p value
	< 0.001
	< 0.001
	< 0.001

sed and dose equivalents in all surgeries except appendectomy and mastectomy compared to OPEN recommendations.

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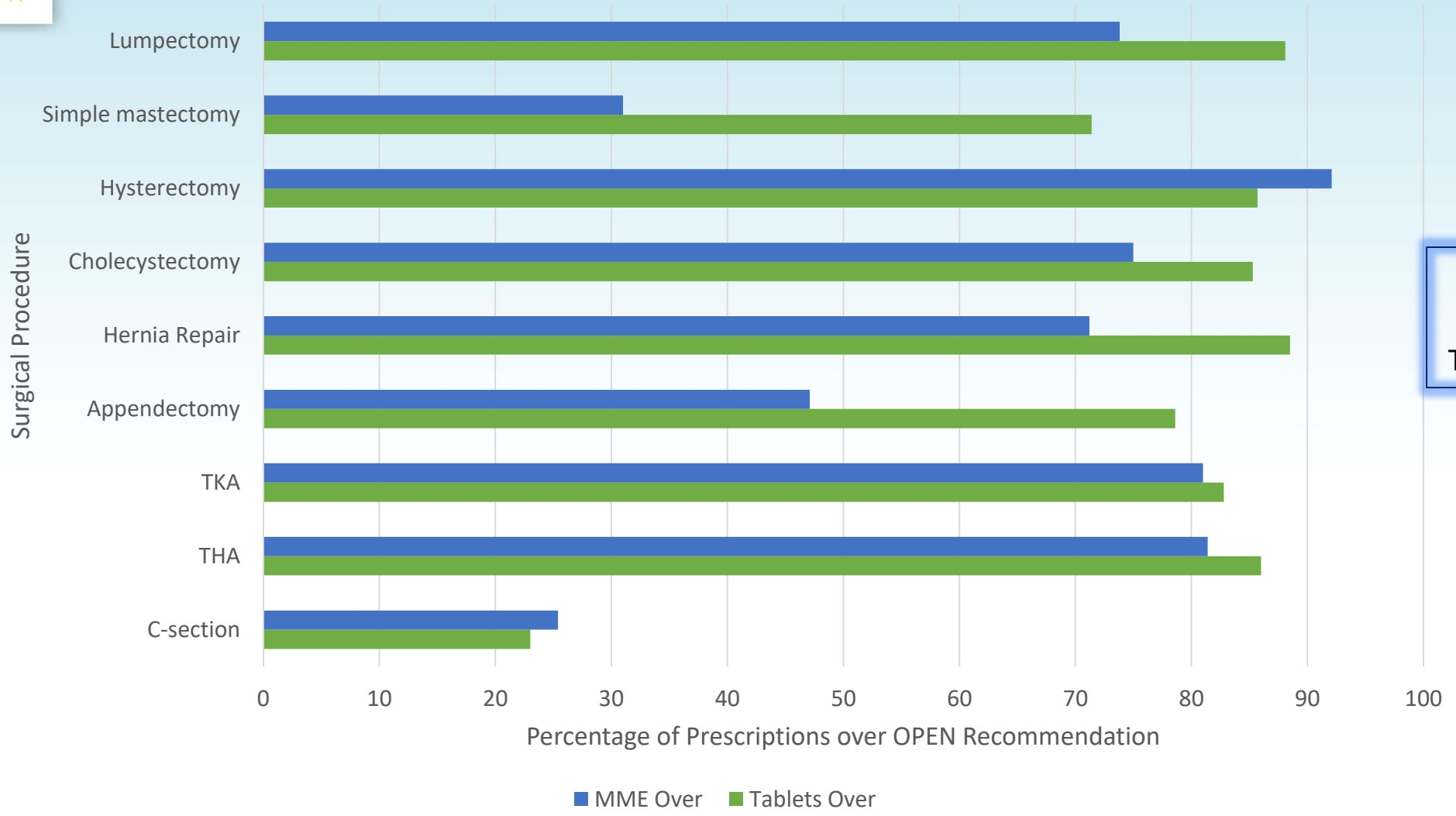
OPEN Evaluation at Eskenazi

Figure 1: Percentage of Eskenazi Health Surgery Prescriptions over OPEN Recommendations

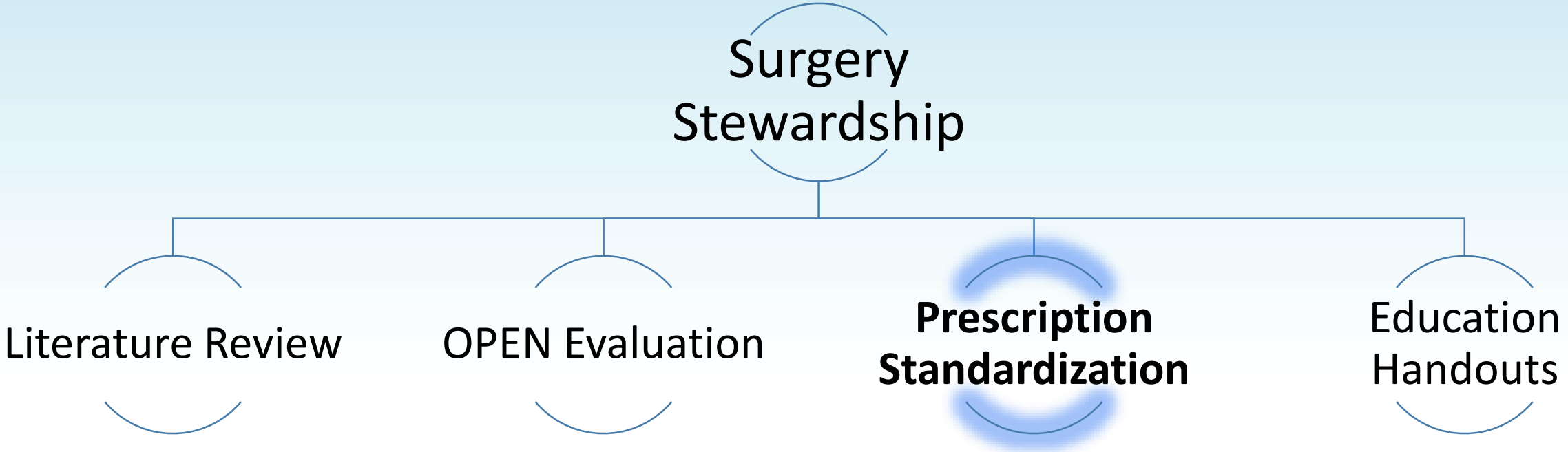


Summative Totals

MME Over: **59.75%**

Tablets Over: **69.86%**

Surgery Stewardship

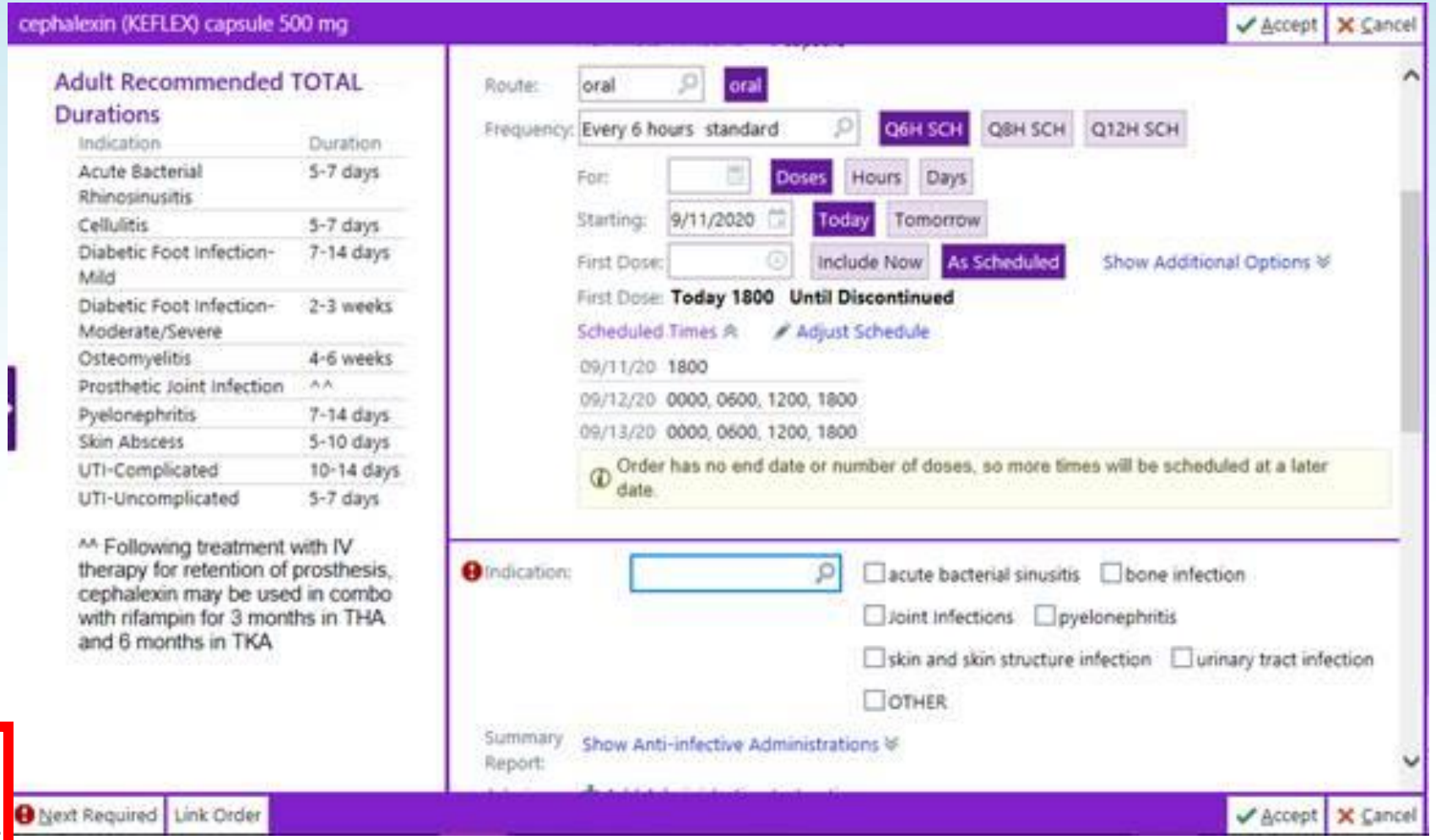


Prescription Standardization

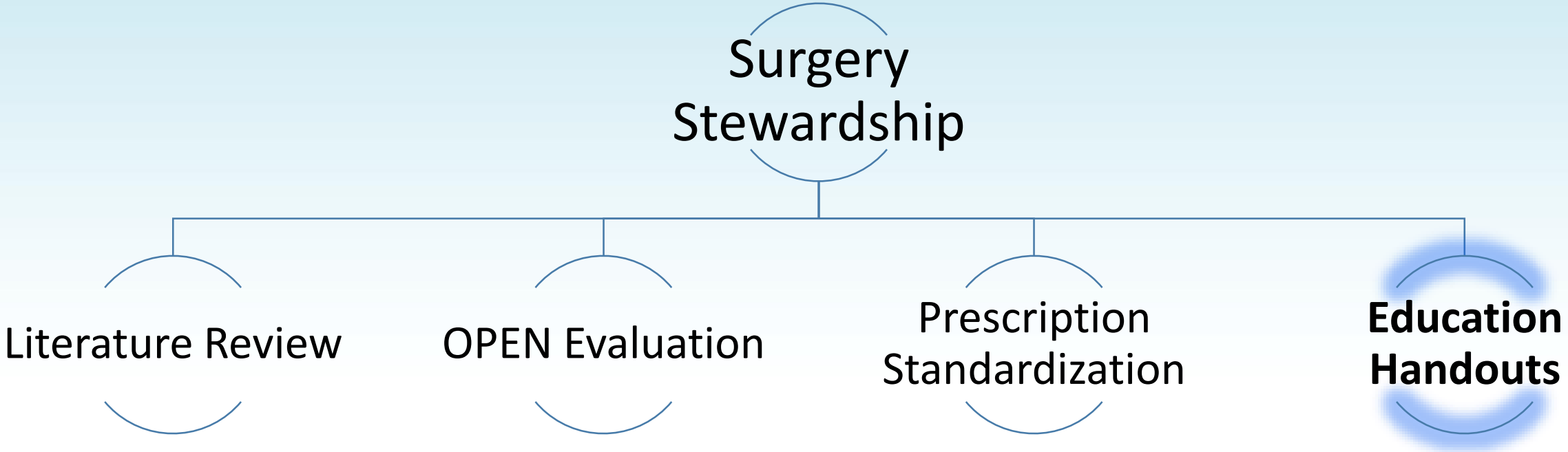
Adult Recommended TOTAL Durations

Indication	Duration
Acute Bacterial Rhinosinusitis	5-7 days
Cellulitis	5-7 days
Diabetic Foot Infection-Mild	7-14 days
Diabetic Foot Infection-Moderate/Severe	2-3 weeks
Osteomyelitis	4-6 weeks
Prosthetic Joint Infection	^^
Pyelonephritis	7-14 days
Skin Abscess	5-10 days
UTI-Complicated	10-14 days
UTI-Uncomplicated	5-7 days

Surgical Procedure Name	Number of Tablets Recommended for Opioid-Naïve Patient



Surgery Stewardship



PATIENT AND FAMILY EDUCATION:

PAIN MANAGEMENT AFTER SURGERY

You will experience pain after surgery. This is normal. Pain is often worse in the first days after surgery, but it will slowly get better. It is better to treat pain before it gets very bad. It is harder to treat when it is out of control. Pain pills will not completely stop the pain. They can lessen your pain, so you feel more comfortable.

With your pain managed, you will get better rest and can walk around more. Walking helps to lessen the chance of a blood clot in your leg, bloating (gas), and constipation (trouble pooping).

HOW DO I TAKE PAIN MEDICATIONS?

Taking two or more kinds of pills together often works best. For the first few days, take acetaminophen and ibuprofen. At home, follow the instructions in the chart below. Only use hydrocodone or oxycodone when the other pain pills are not enough. Stop taking hydrocodone or oxycodone once your pain is under control again. Most people use this medicine for the first few days after surgery.

Generic Name and Brand Name	How much?	How often?	How Can I Make Sure I take the Medicines Safely?
Acetaminophen (Tylenol®)	650 mg	Every 4 or every 6 hours by mouth	No more than 3000 mg in a day (24 hours). Too much can hurt your liver. Do not drink alcohol. If you have hepatitis, no more than 2000 mg per day.
Ibuprofen (Advil® or Motrin®)	400 to 800 mg	Every 6 or every 8 hours by mouth	No more than 2400 mg a day (24 hours). Too much can hurt your liver. Take with food or milk to avoid stomach pain.
Hydrocodone/acetaminophen	5 to 10 mg	Every 4 or every 6 hours by mouth, if needed	Opioids can affect your mood and make you sleepy. They can be addictive. If you take too much at one time, you may become over-sedated (too sleepy, not breathing). They can cause constipation. You can help avoid this by drinking plenty of water and taking a stool softener pill. Do not drive while taking opioids. Do not drink alcohol or take any of these drugs: Valium®, Ambien®, Ativan®, Xanax®, or Klonopin®. This can make you over-sedated
Oxycodone	5 to 10 mg	Every 4 or every 6 hours by mouth, if needed	

WHY AM I TAKING MORE THAN ONE PAIN MEDICINE?

- Different pain medications work in different ways. Taking two or three kinds can increase their effects. This can keep your pain under control, keep your hospital stay short, and improve your ability to move after surgery.
- Instead of taking a lot of one kind of pill, you will take less of two or three kinds of pills to lessen side effects.

MEDICATION DISPOSAL

Extra medication leftover after recovery and any expired medications should be properly disposed of for safety reasons. Medication take-back boxes are available at every Eskenazi Health community pharmacy for drop off.

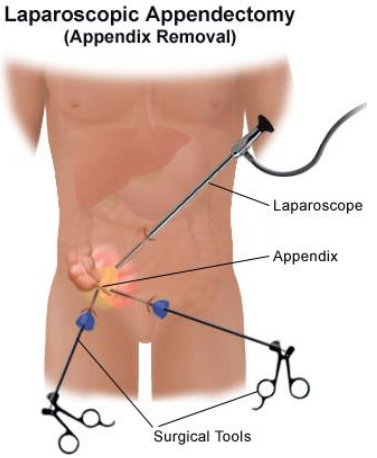
PATIENT AND FAMILY EDUCATION:

EXPECTATIONS AFTER SURGERY

LAPAROSCOPIC APPENDECTOMY OR CHOLECYSTECTOMY

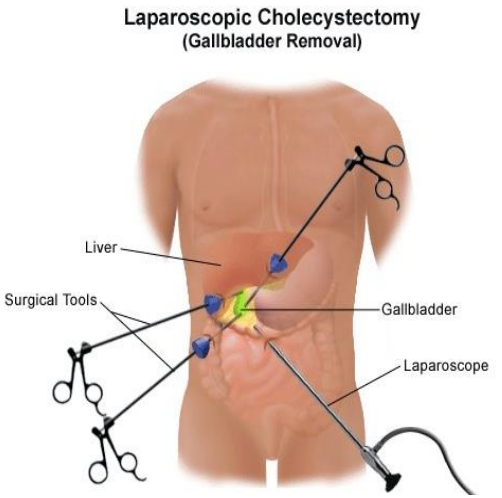
WHAT SHOULD I EXPECT AFTER THE PROCEDURE?

- Your surgical incisions are small, and your belly was filled with air during surgery
- You may experience pain in your shoulder, which can be caused by the air irritating your diaphragm. The diaphragm is a muscle that helps you breathe. This should go away within a few days.



WHAT SHOULD I AVOID AFTER SURGERY?

- Avoid constipation (trouble pooping) to prevent straining and increased pain
  - Recommend bowel regimen of senna/docusate 2 tablets by mouth two times daily and Miralax® if needed



WHEN TO CALL THE SURGEON'S OFFICE

- Wound infections can cause pain. Call your surgeon's office at 317-880-3737 if you have any of the following:
  - Severe pain that is not controlled by your medications
  - Concerns about an infection (fever, increasing wound redness, or drainage of pus)
  - New pain that was not there before

ACTIVITY AFTER SURGERY

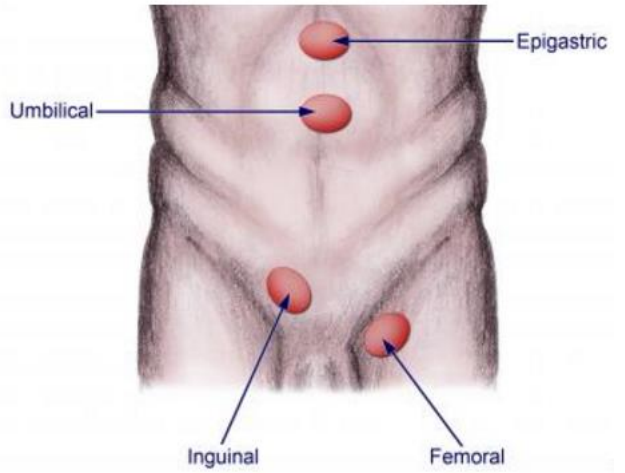
- Limit your activities based on your level of discomfort: if it hurts too much, do not do it.
- Avoid lifting any object weighing more than 10 pounds for 6 weeks
- Make sure to walk daily to stretch your muscles and speed up your recovery.
- Provide your surgeon with any paperwork your employer may require for time off or light duty

Eskenazi Health
720 Eskenazi Ave.
Indianapolis, IN 46202
317.880.0000
EskenaziHealth.edu

PATIENT AND FAMILY EDUCATION:

EXPECTATIONS AFTER SURGERY

INGUINAL HERNIA OR UMBILICAL HERNIA



WHAT SHOULD I EXPECT AFTER THE PROCEDURE?

- For men after inguinal hernia: You may experience scrotal swelling and tenderness. This is normal and may take a few weeks to go away. For improved comfort, wear tight bicycling shorts and use ice packs to the area daily to decrease swelling.

WHAT SHOULD I AVOID AFTER SURGERY?

- Avoid constipation (trouble pooping) to prevent straining and increased pain
  - Recommend bowel regimen of senna/docusate 2 tablets by mouth two times daily and Miralax ® if needed

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Eskenazi Health
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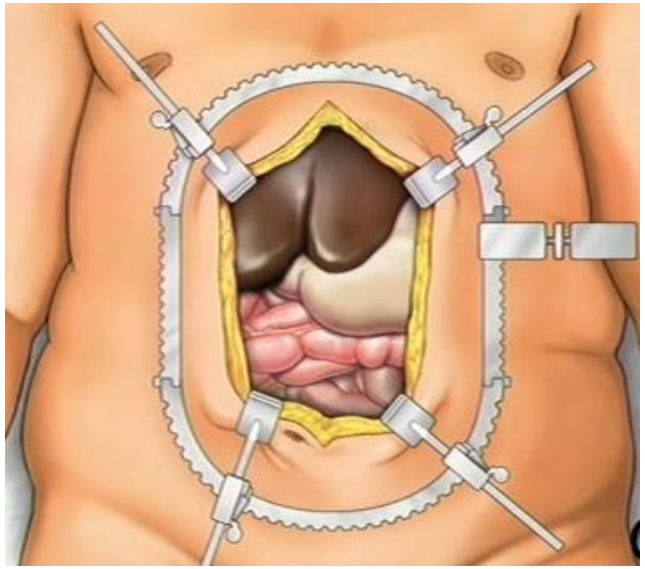
EskenaziHealth.edu

PATIENT AND FAMILY EDUCATION:

EXPECTATIONS AFTER SURGERY

OPEN ABDOMINAL SURGERY

WHAT SHOULD I EXPECT AFTER THE PROCEDURE?



- You have a big incision on your abdomen. It is normal to have more severe pain with increased activity.
- If you have drains, be sure to pin them to your clothing securely, so they do not get pulled and cause more pain.
- If you have staples, placing a gauze dressing between your incision and your clothes can decrease the risk of your clothes snagging on the staples and causing pain.

WHAT SHOULD I AVOID AFTER SURGERY?

- Avoid constipation (trouble pooping) to prevent straining and increased pain
  - Recommend bowel regimen of senna/docusate 2 tablets by mouth two times daily and Miralax® if needed

WHEN TO CALL THE SURGEON'S OFFICE

- Wound infections can cause pain. Call your surgeon's office at 317-880-3737 if you have any of the following:
  - Severe pain that is not controlled by your medications
  - Concerns about an infection (fever, increasing wound redness, or drainage of pus)
  - New pain that was not there before

ACTIVITY AFTER SURGERY

- Limit your activities based on your level of discomfort: if it hurts too much, don't do it.
- Avoid lifting any object more than 10 pounds for 6 weeks .
- Make sure to walk daily to stretch your muscles and speed up your recovery.

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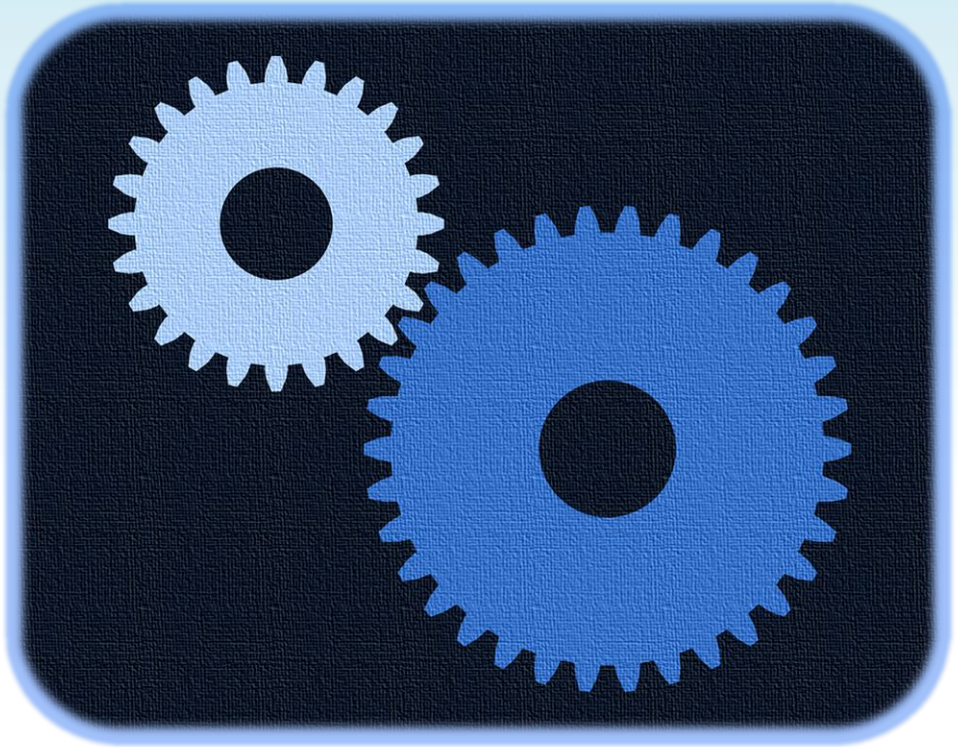
Interactive Activity



- **Task:** complete opioid stewardship checklist
- **Time limit:** 3 minutes
- **Discussion:** 2 minutes

Lessons Learned

- Leadership Support
- Physician Buy-In
- Timeline Flexibility
- Data-Driven, Evidence-Based Decisions
- Prioritization

The Future is Stewardship

- Opioid stewardship programs can ensure pain management is an organizational priority while supporting the alignment of measures and regulatory standards
- Addition of an opioid stewardship pharmacist focused on process improvement can advance practices, support provider and patient engagement and education, and improve outcomes
- A governing opioid and pain management oversight committee for the institution can encourage collaboration with key players, prioritize initiatives, and eliminate barriers
- Picking one or two major initiatives on which to focus, such as opioid use disorder or perioperative pain management, can serve as a framework for future efforts

Opioid Stewardship MATters: Addressing Opioid Use Disorder Across the Continuum of Care

and

Stewards for Surgery: Employing Perioperative Opioid Stewardship Strategies

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