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Penn Medicine

Making Reducing Opioid Related Harms the Easy Thing to Do

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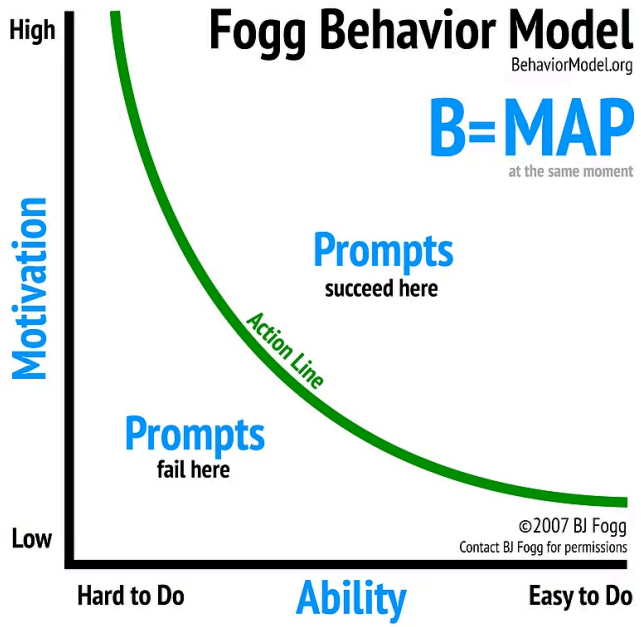
Presenter

Dr. M. Kit Delgado, MD, MS

Disclosures

- I have received research funding from PCORI, FDA, CDC, and NIH
- I do not have any disclosures

Simple model for designing behavioral interventions



B=MAP

To change behavior, need:

1. **Motivation**
2. **+ Ability**
3. **+ Prompt**

EAST

Make intervention:

1. **Easy**
2. **Attractive/Social**
3. **Timely**

EAST: UK Behavioural Insights Team, 2014

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Nudges for opioid prescribing stewardship

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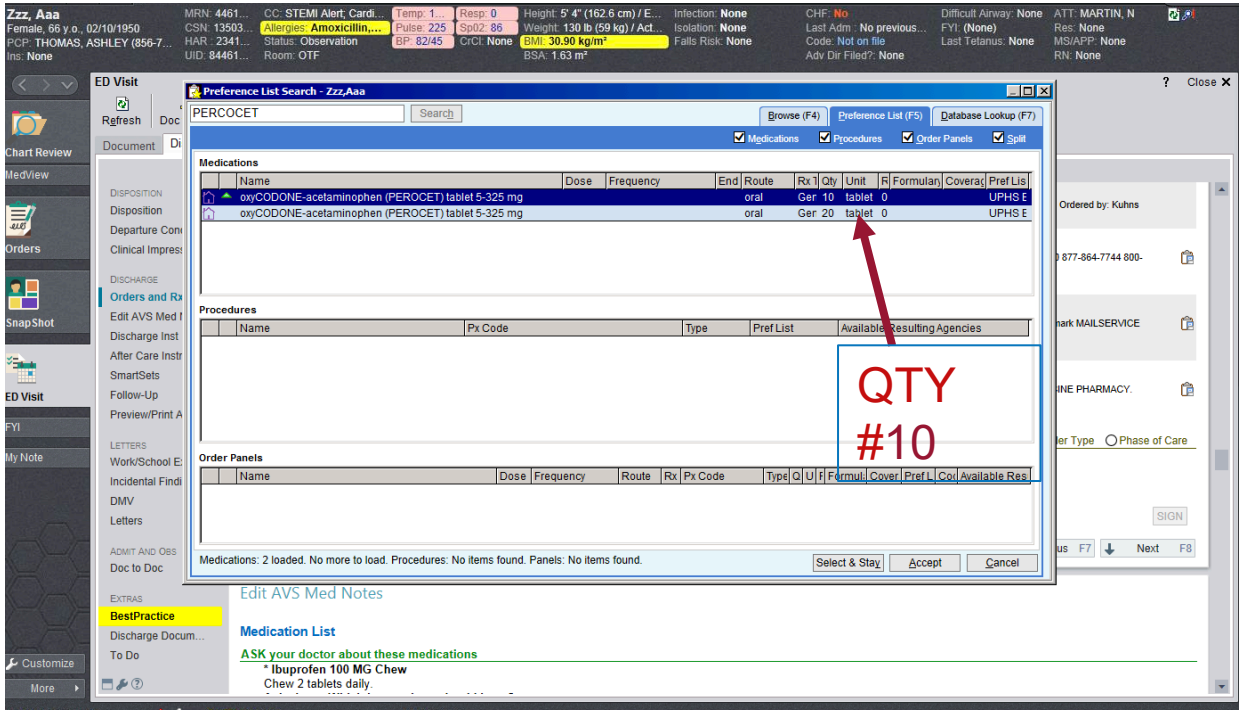
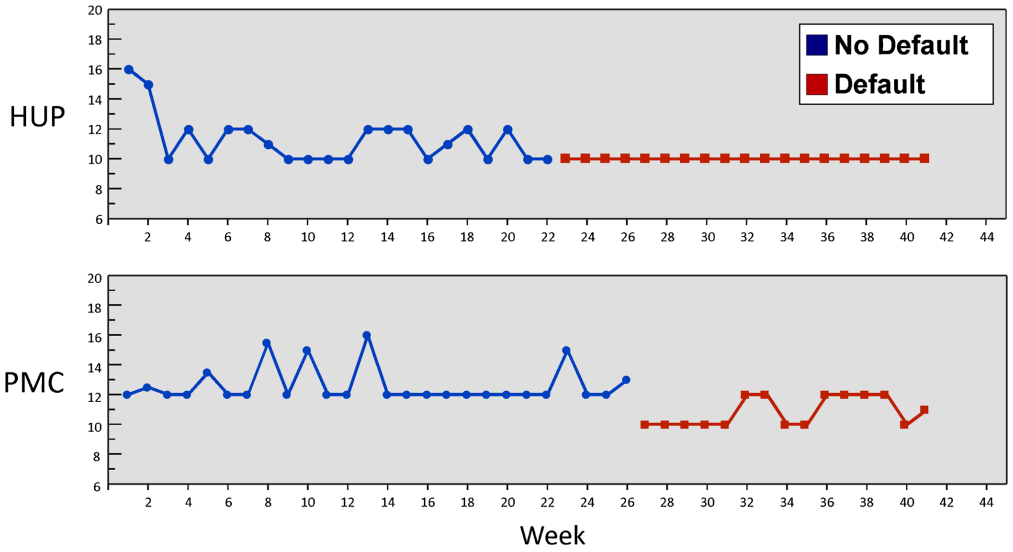
ED Discharge Quantity Defaulted to 10 pills

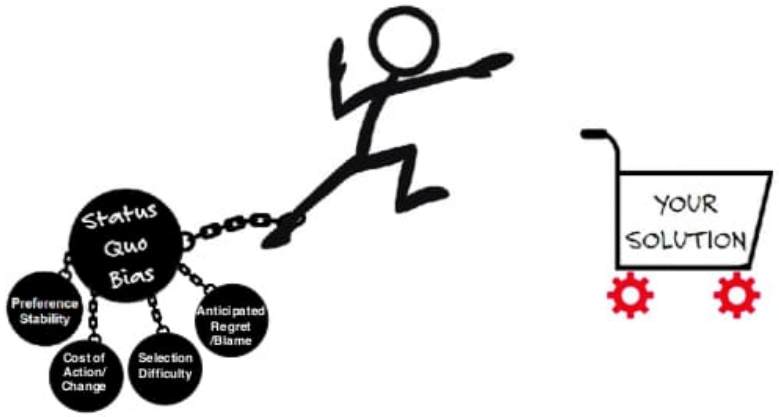


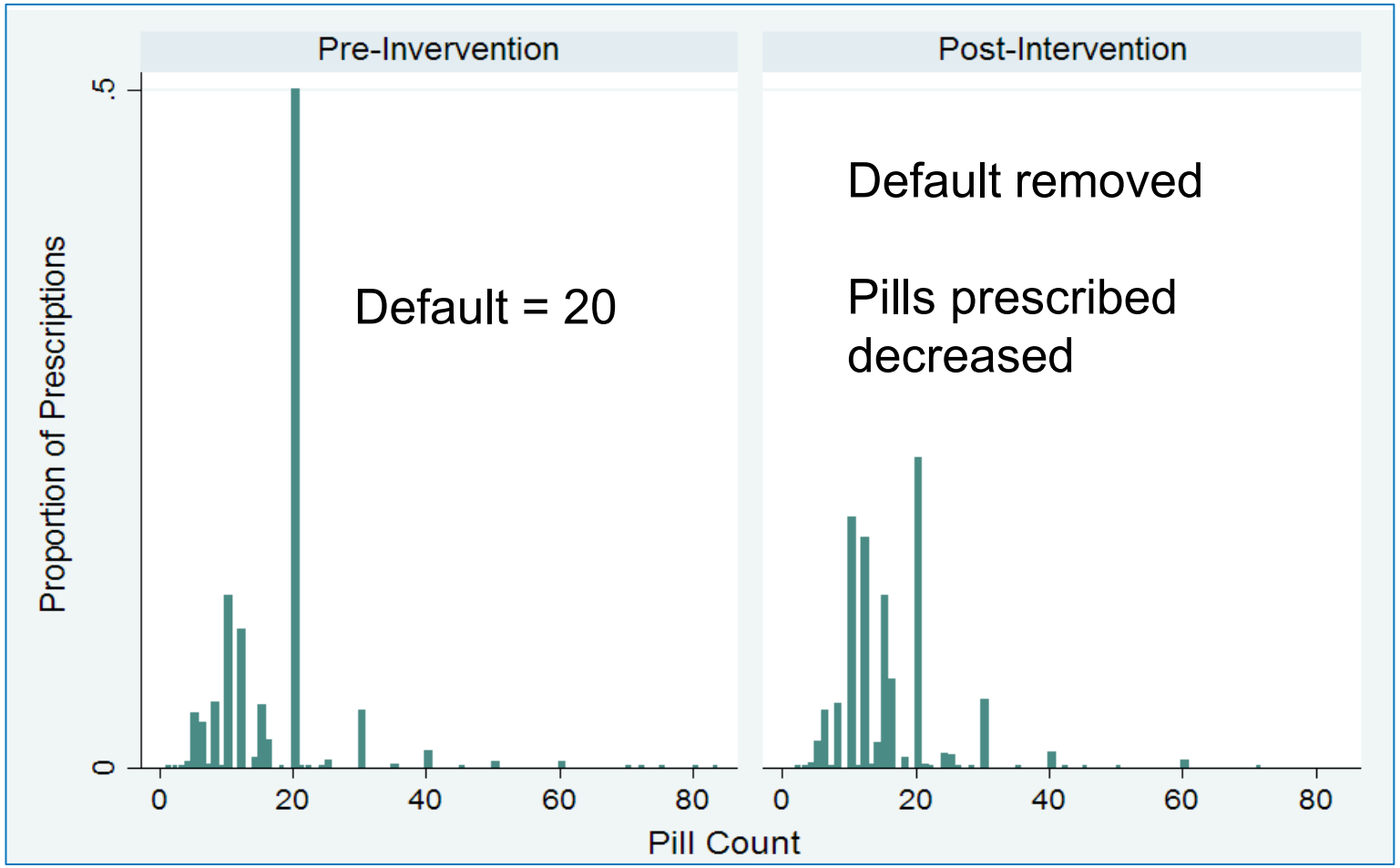


% of Rx for 10 pills doubled: 21% to 43%

Delgado MK…Perrone, JM, *JGIM,* 2018

However, defaults can lead to *over* prescribing if set too high





Santistevan JR, Sharp BR, Hamedani AZ, et al., WJEM, 2018

Lots of opportunity reduce defaults opioid tablet orders in U.S. EDs

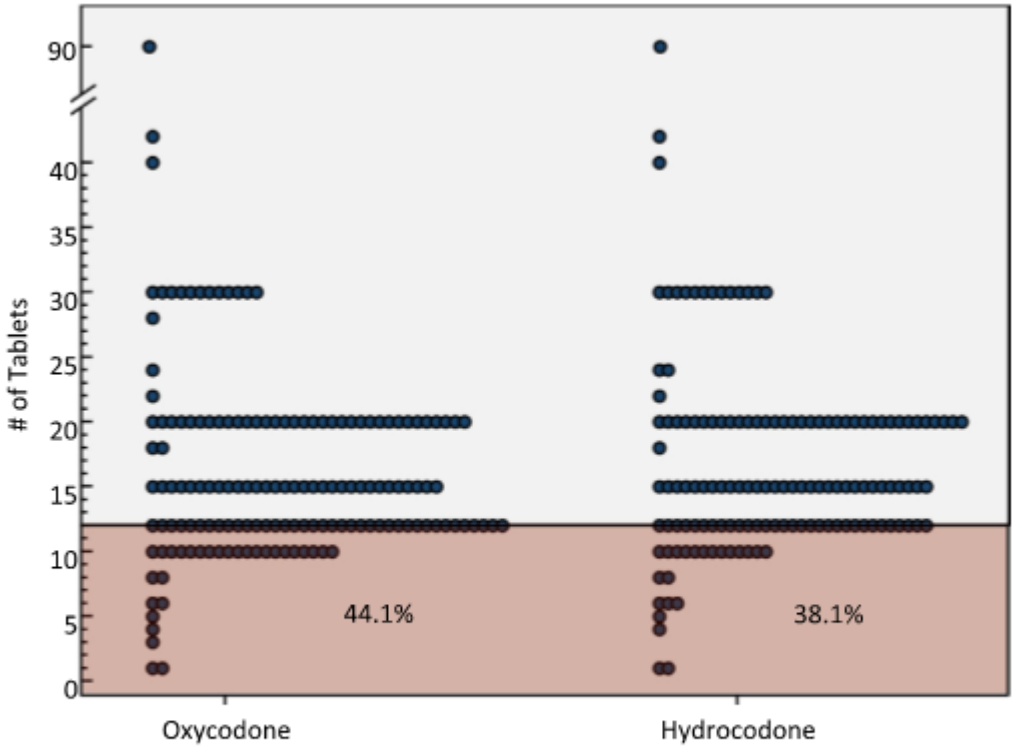
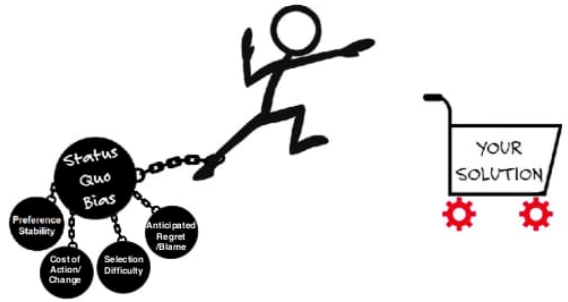


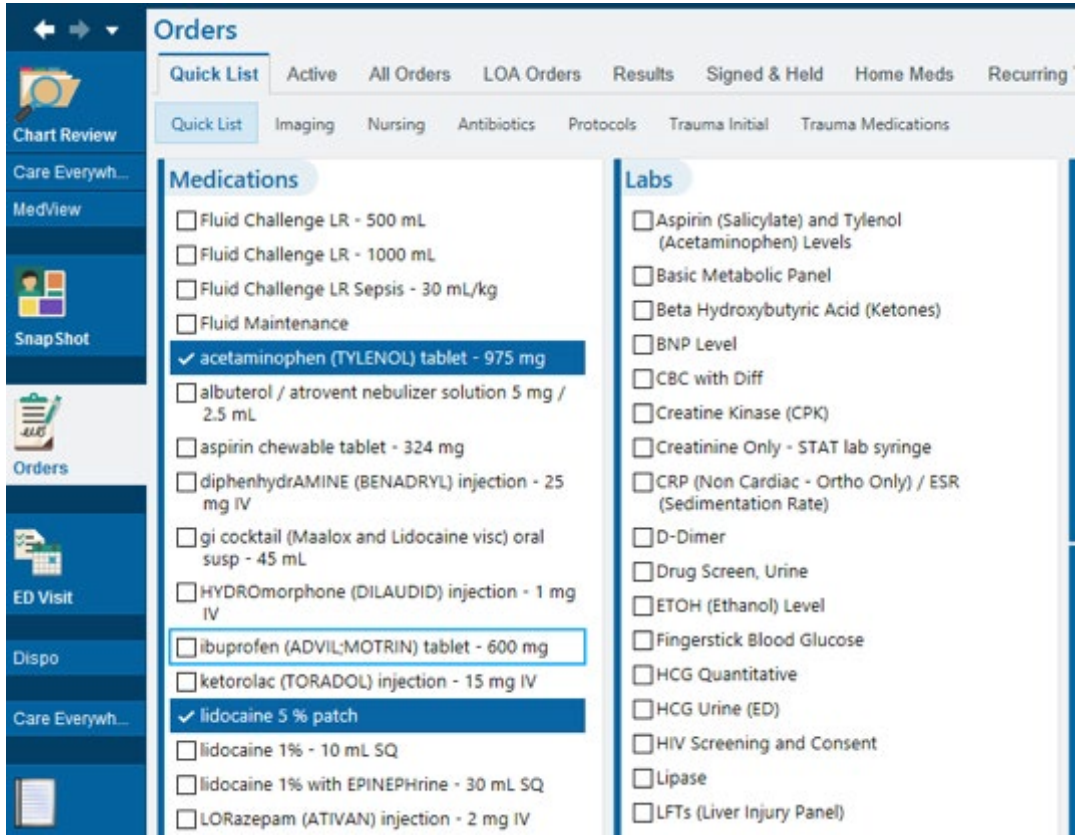
Fig. 1. Distribution of emergency department default opioid tablet order quantities among survey respondents and proportion for a standard 3-day supply (12 tablets) or less.

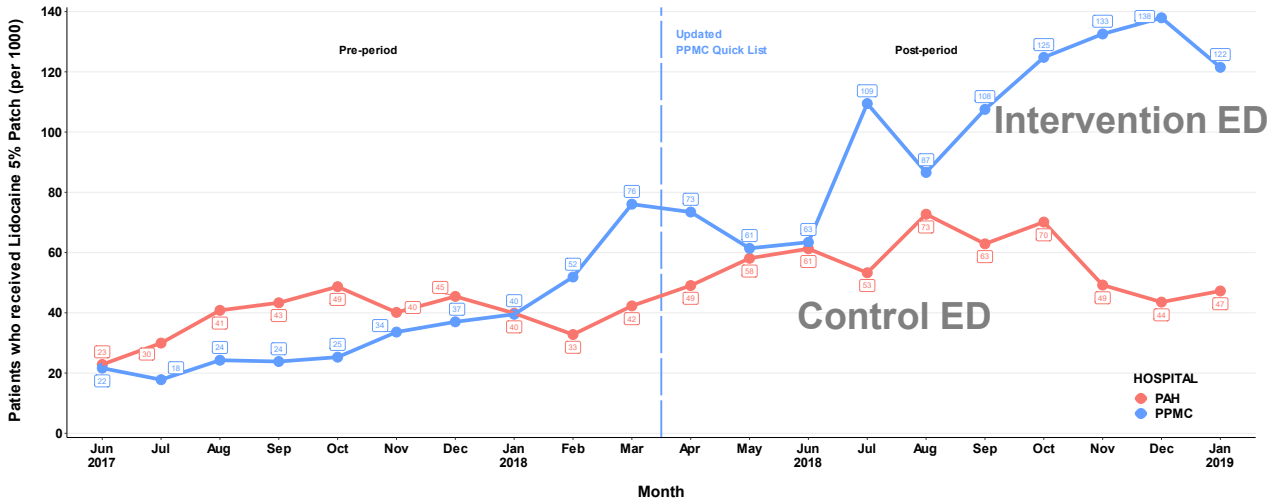


Blutinger E...Delgado MK, AJEM, 2019

Power of changing default orders

Lidocaine patch added to menu of routine ED orders





Rate of Lidocaine patch orders doubled

Yadav, K, Moon, J, Delgado, MK (in process)

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Nudges for increasing evidence-based treatment for OUD

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Multiple barriers to addiction treatment engagement in the ED

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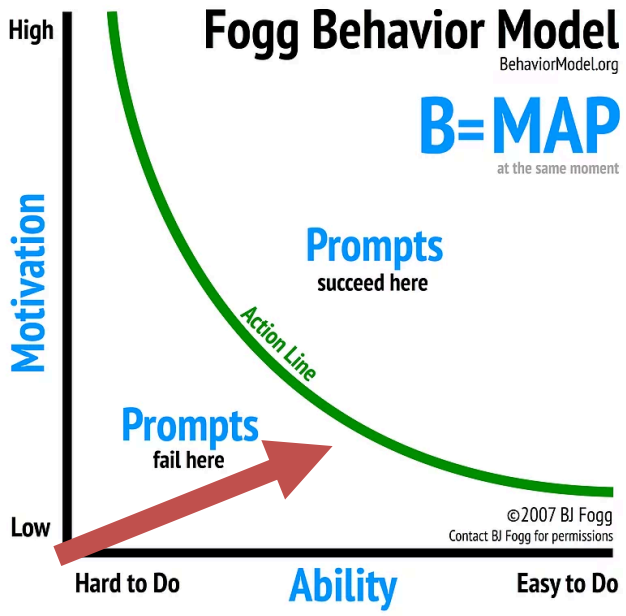
Clinicians

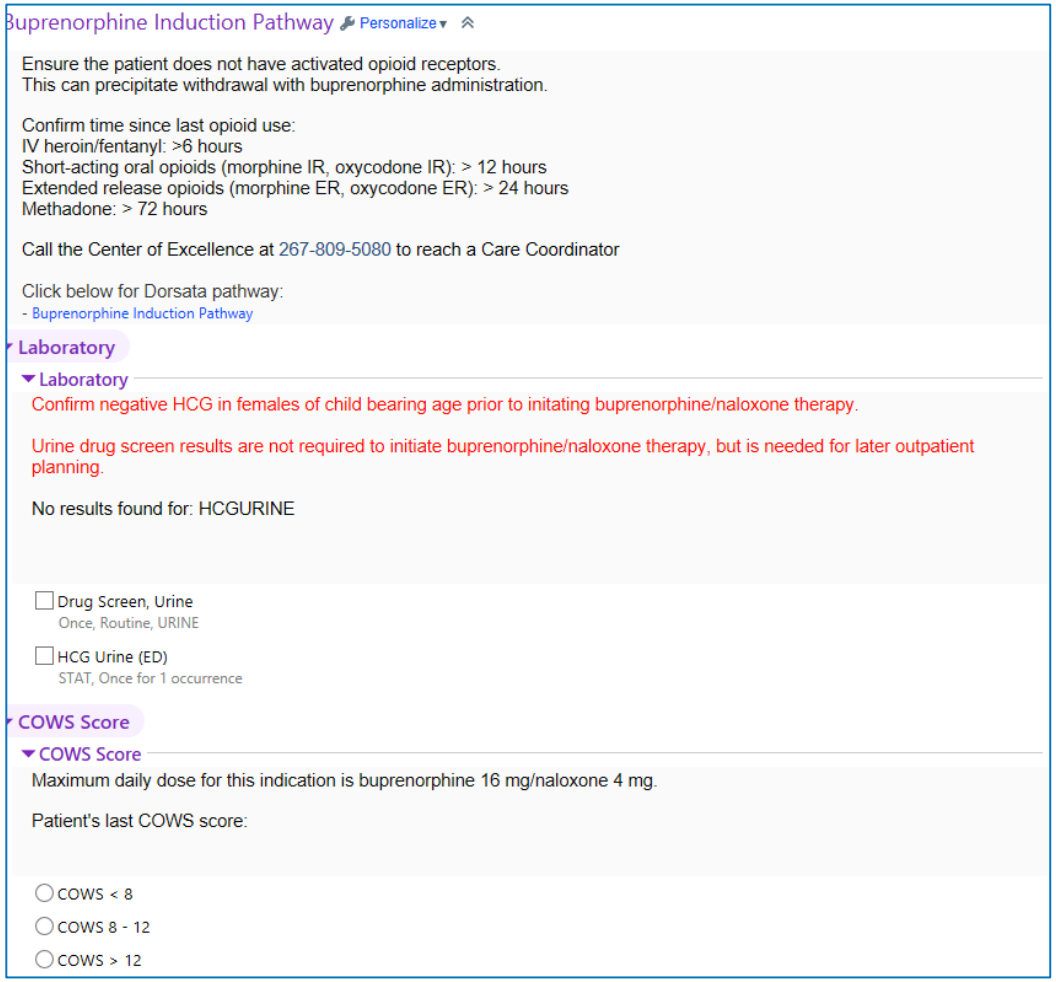
- Motivation
  - Stigma
- Ability
  - Effort to identify patients
  - Effort to engage patients
  - Money/effort to get X-waiver
  - Competing interests
- No prompts to activate treatment pathways



Patients

- Motivation
  - Withdrawal, stigma
  - Addictive nature of drugs/present bias
- Ability
  - Environments encourage drug use/isolation
  - Treatment difficult to access
  - Lack of $, ID, transportation, housing
  - Many treatment options don't offer life-saving medications for OUD
- Lack of prompts to engage in treatment once leave ED. Many prompts to use drugs again

Making it Easy: ED Buprenorphine Induction Orderset with Clinical Decision Support



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Making it Easy: Discharge Smartset

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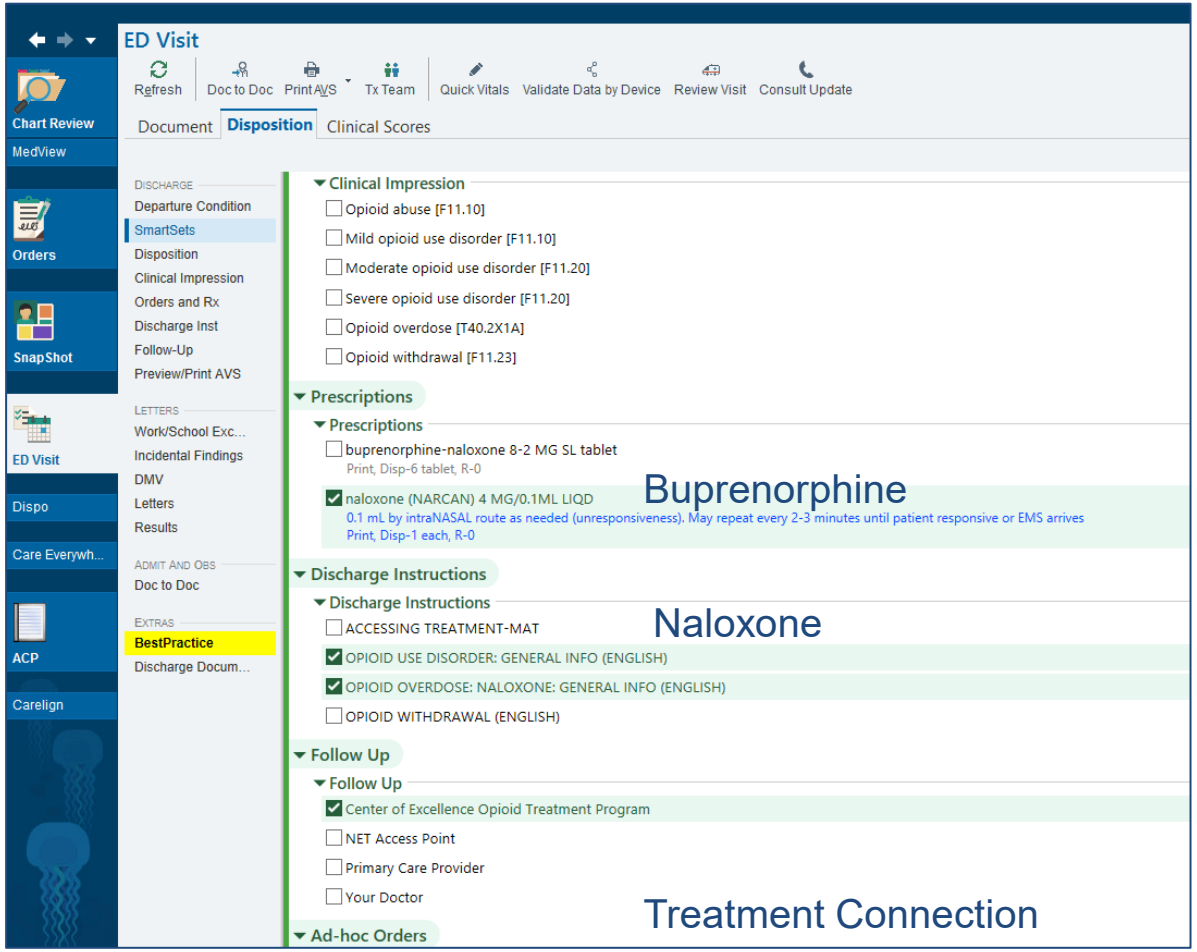
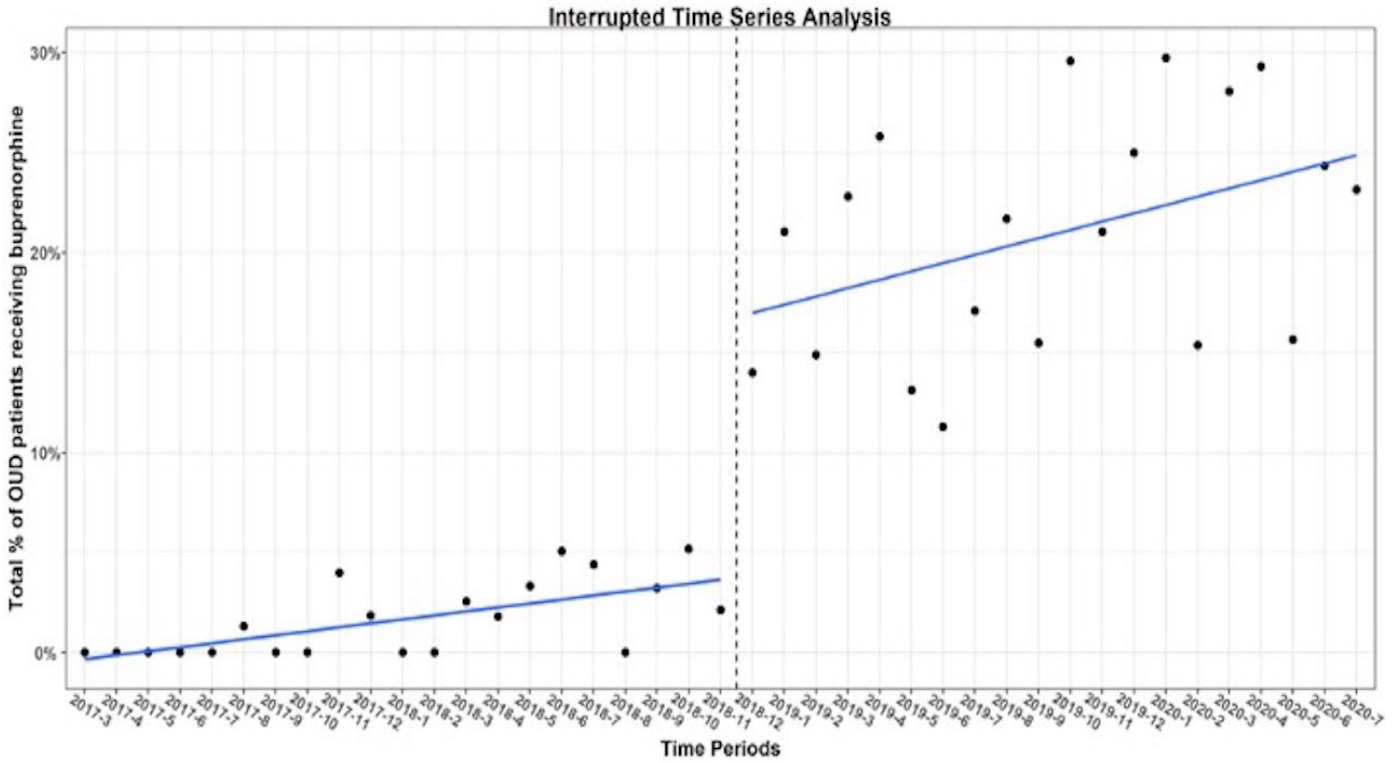


Sustained Implementation of a Multicomponent Strategy to Increase Emergency Department-Initiated Interventions for Opioid Use Disorder

Margaret Lowenstein, MD, MSHP*; Jeanmarie Perrone, MD; Ruiying A. Xiong, MS; Christopher K. Snider, MPH; Nicole O'Donnell, CRS; Davis Hermann, MiD; Roy Rosin, MBA; Julie Dees, MBA, MA; Rachel McFadden, BSN, RN; Utsha Khatri, MD, MSHP; Zachary F. Meisel, MD, MS; Nandita Mitra, PhD; M. Kit Delgado, MD, MS

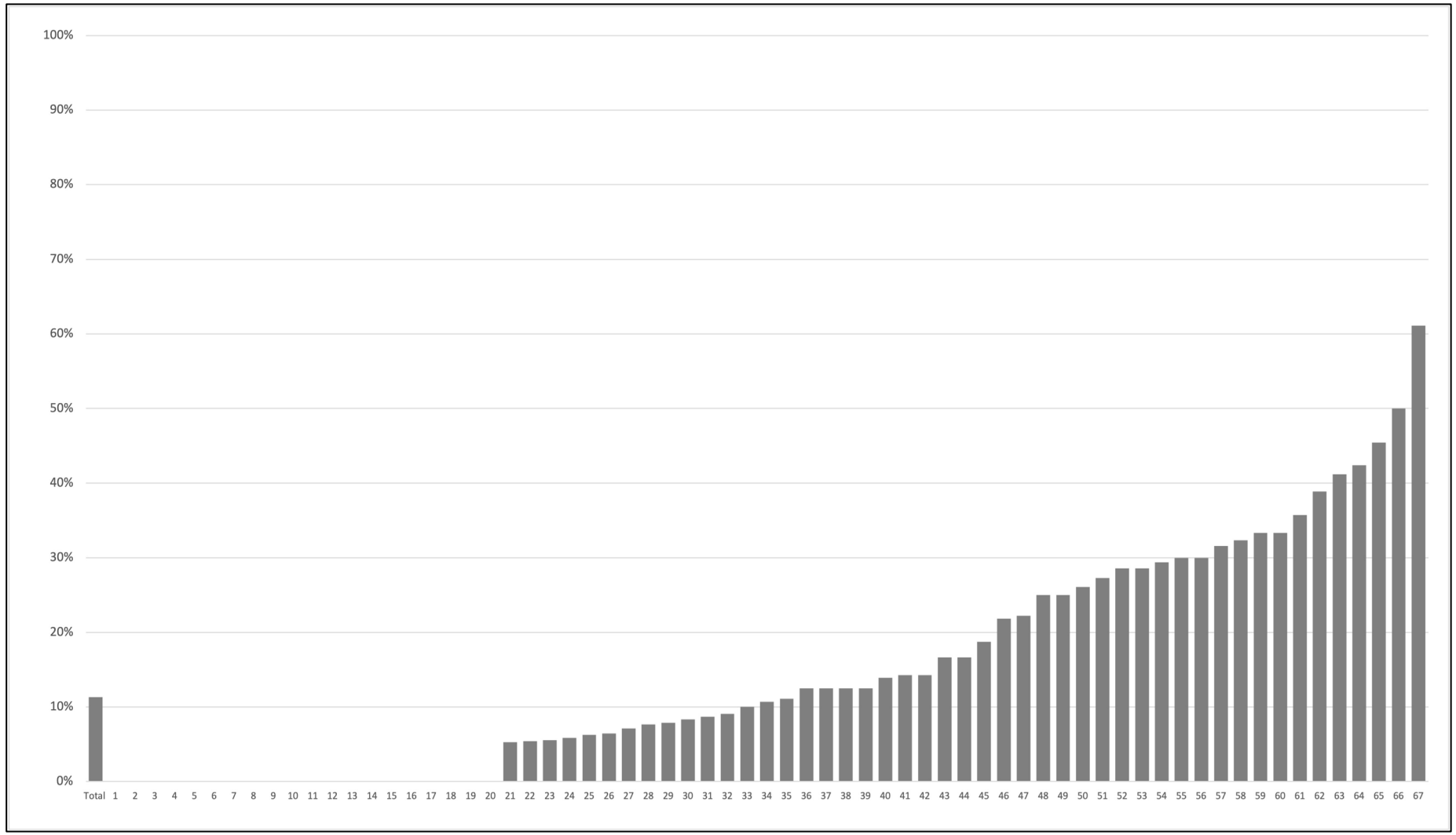


Interrupted time series analysis of buprenorphine use over time before and after ED intervention implementation

Lowenstein…Delgado, Annals of EM, 2021

Provider-level buprenorphine prescribing before and after ED intervention implementation

Rate of buprenorphine prescriptions per OUD-related encounter for all providers with 10 or more OUD-related encounters in the pre and post period.



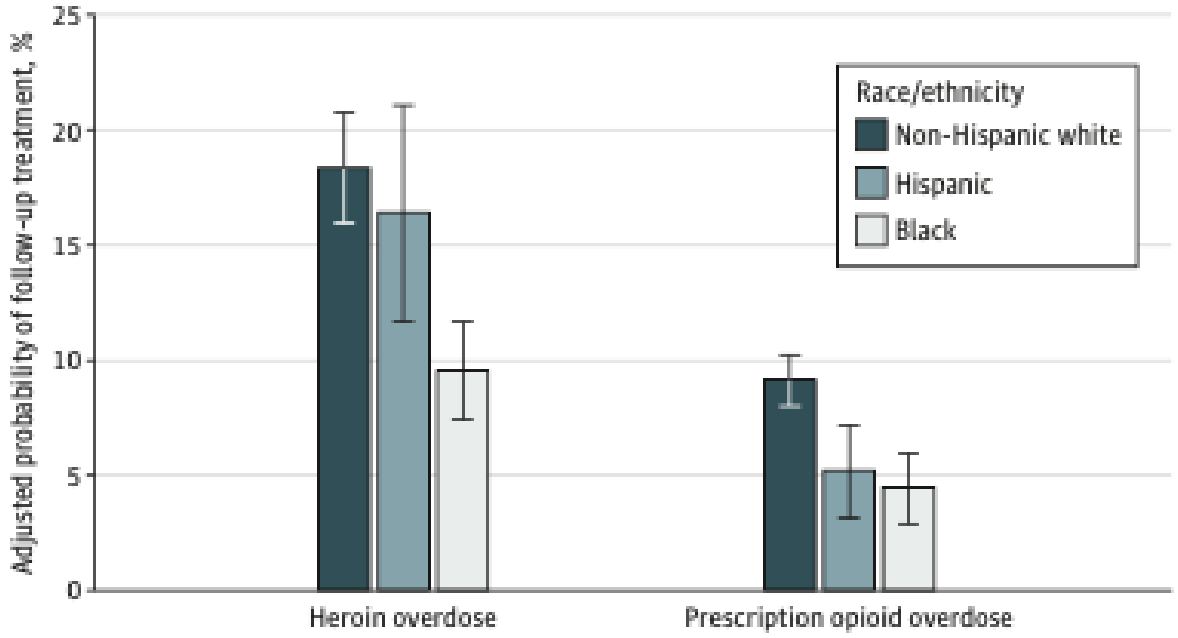
Lowenstein…Delgado, Annals of EM, 2021

Original Investigation | Substance Use and Addiction

Incidence of Treatment for Opioid Use Disorder Following Nonfatal Overdose in Commercially Insured Patients

Austin S. Kilaru, MD, MSHP; Aria Xiong, MS; Margaret Lowenstein, MD, MPhil; Zachary F. Meisel, MD, MPH, MSHP; Jeanmarie Perrone, MD; Utsha Khatri, MD; Nandita Mitra, PhD; M. Kit Delgado, MD, MS

Figure 3. Average Adjusted Probability of Follow-up Treatment After Opioid Overdose, by Overdose Type and Race/Ethnicity



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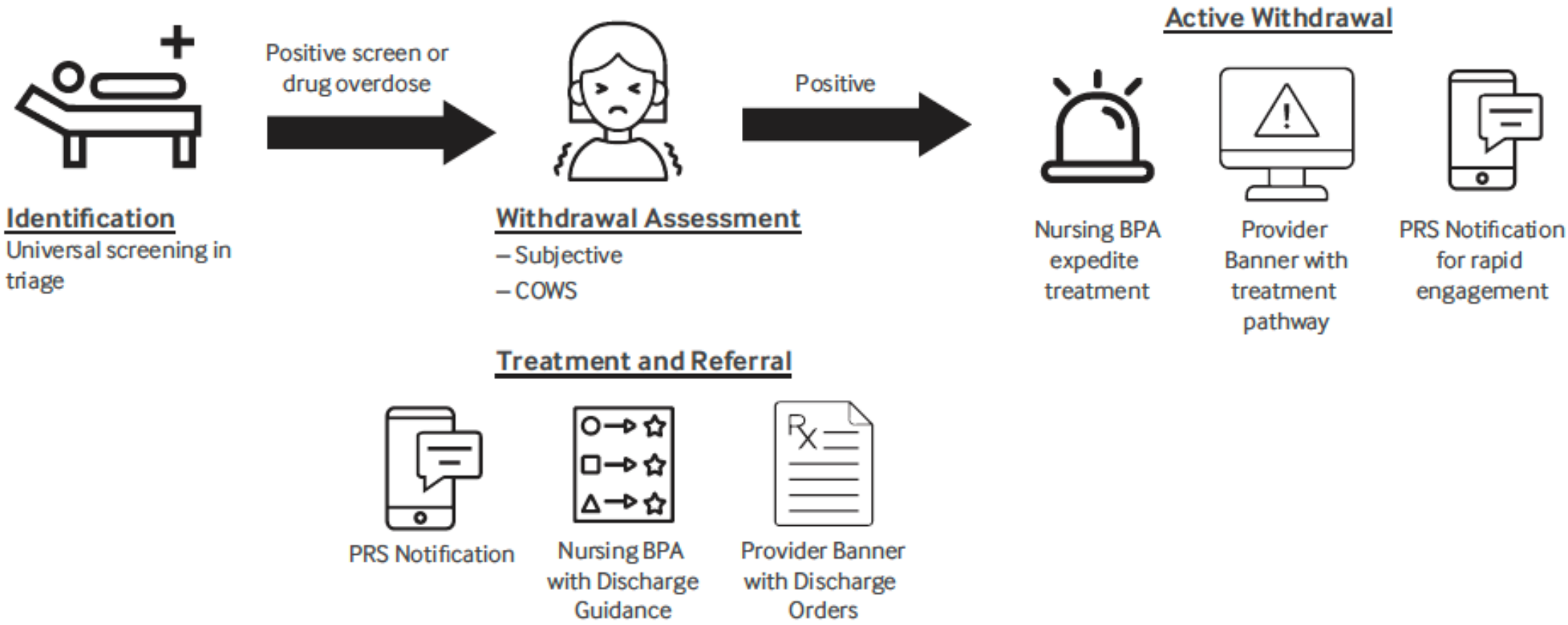
ED Screening Protocol Implemented



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Making OUD Treatment Engagement Default Option

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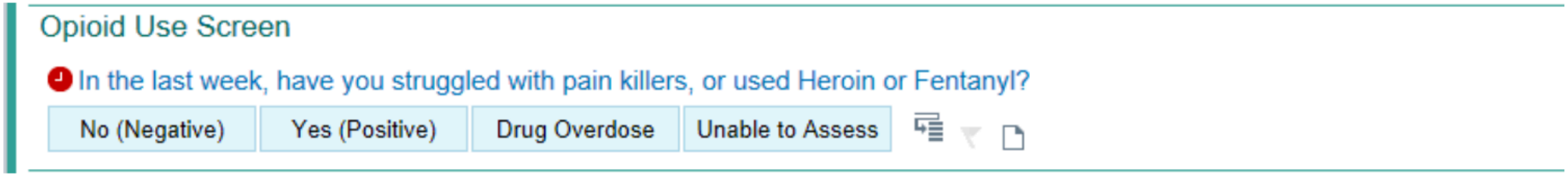
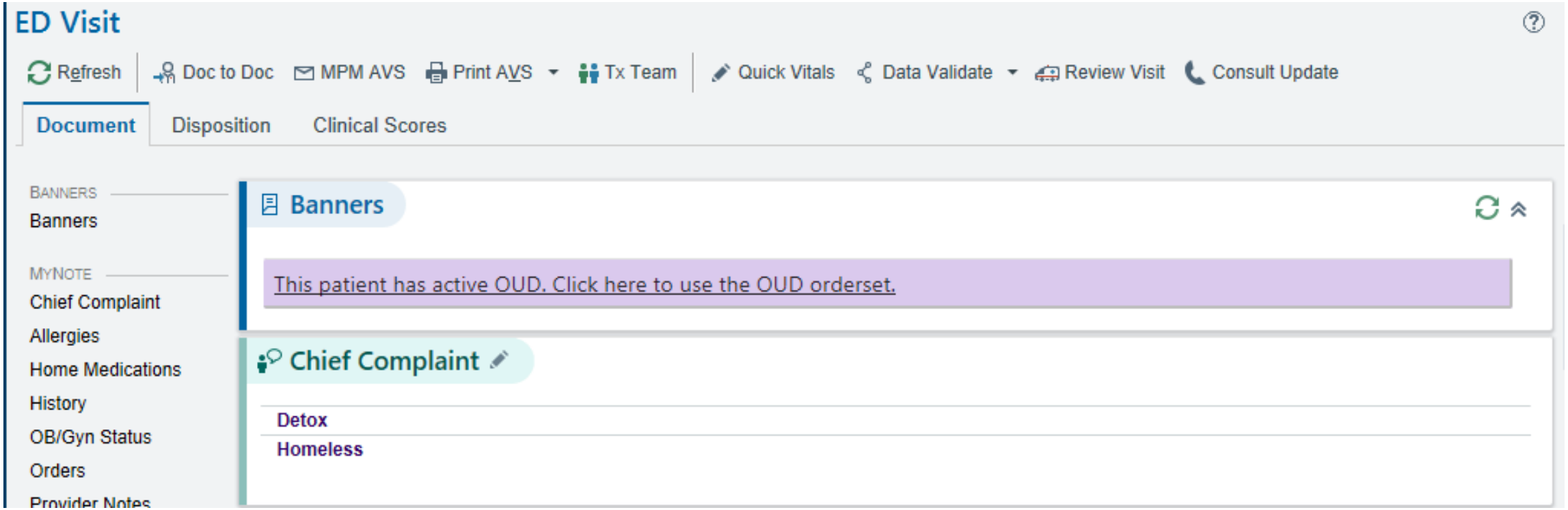
"In the last week, have you struggled with pain killers, or used heroin or fentanyl?"



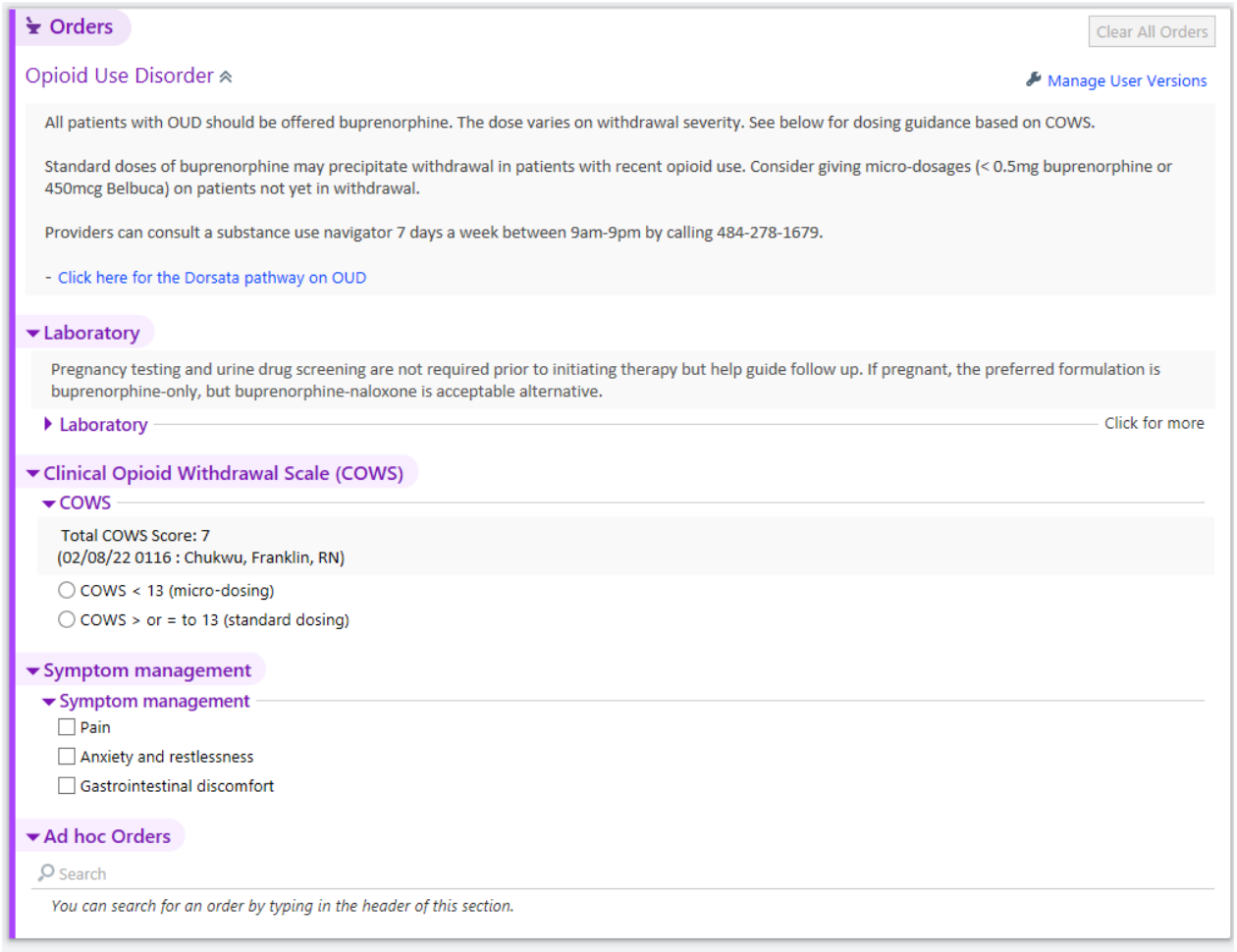
Answer Selections:

- **No** (Negative) → End of screening
- **Unable to Assess** → Patient in acute distress/non-verbal (but *not* suspected overdose)
- **Drug Overdose** → Patient presents for probable overdose involving illicit substance
- **YES (Positive Active OUD)** → ***"Do you feel like you are experiencing withdrawal now?"***
  - Yes response → nurses prompted to measure a COWS score in triage

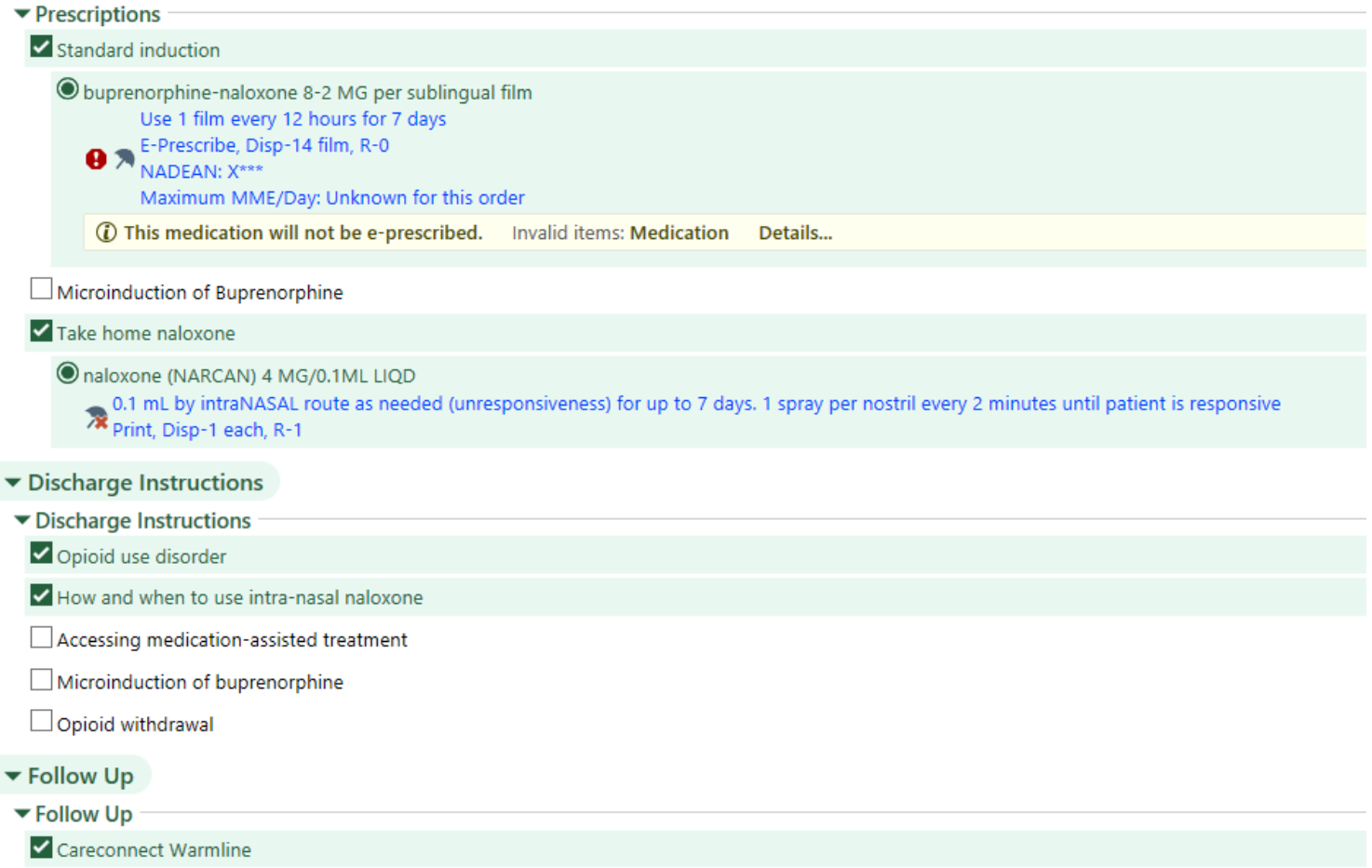
Lowenstein…Delgado, NEJM Catalyst, 2021


ED Visit
Refresh
Doc to Doc
MPM AVS
Print AVS
Tx Team
Quick Vitals
Data Validate
Review Visit
Consult Update
Document
Disposition
Clinical Scores
BANNERS
Banners
MYNOTE
Chief Complaint
Allergies
Home Medications
History
OB/Gyn Status
Orders
Provider Notes
Banners
This patient has active OUD. Click here to use the OUD orderset.
Chief Complaint
Detox
Homeless

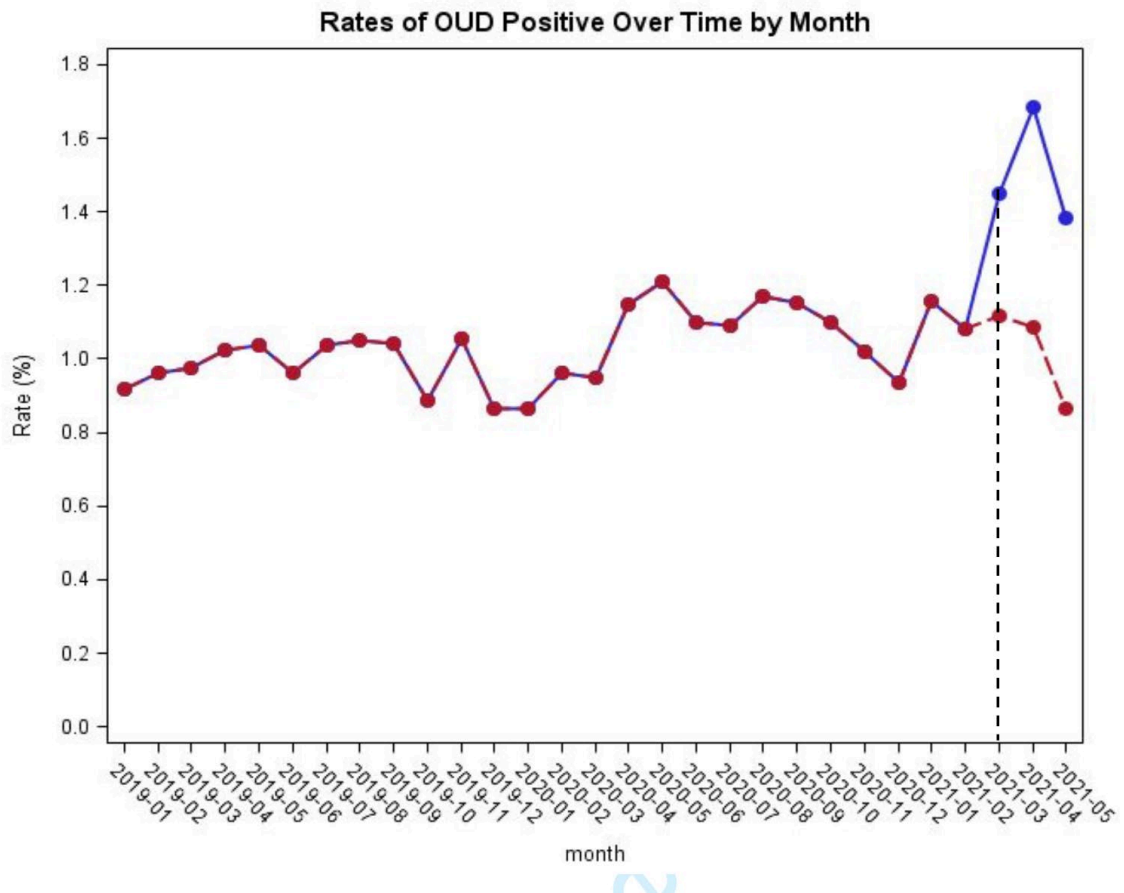
New OUD Orderset With Clinical Decision Support



DC Smartset: Standard Dose Bupe + Naloxone + CareConnect



Making OUD Treatment Engagement Default Option



Screening by default -> 50% increase in patients identified would benefit from treatment

Easy to implement: + screens only 1 extra minute to triage time

NEJM Catalyst | Innovations in Care Delivery

CASE STUDY

Redesign of Opioid Use Disorder Screening and Treatment in the ED

Margaret Lowenstein, MD, MPhil, MSHP, Rachel McFadden, RN, Dina Abdel-Rahman, Jeanmarie Perrone, MD, Zachary F. Meisel, MD, MPH, MSHP, Nicole O'Donnell, Christian Wood, Gabrielle Solomon, Rinad Beidas, PhD, M. Kit Delgado, MD, MS

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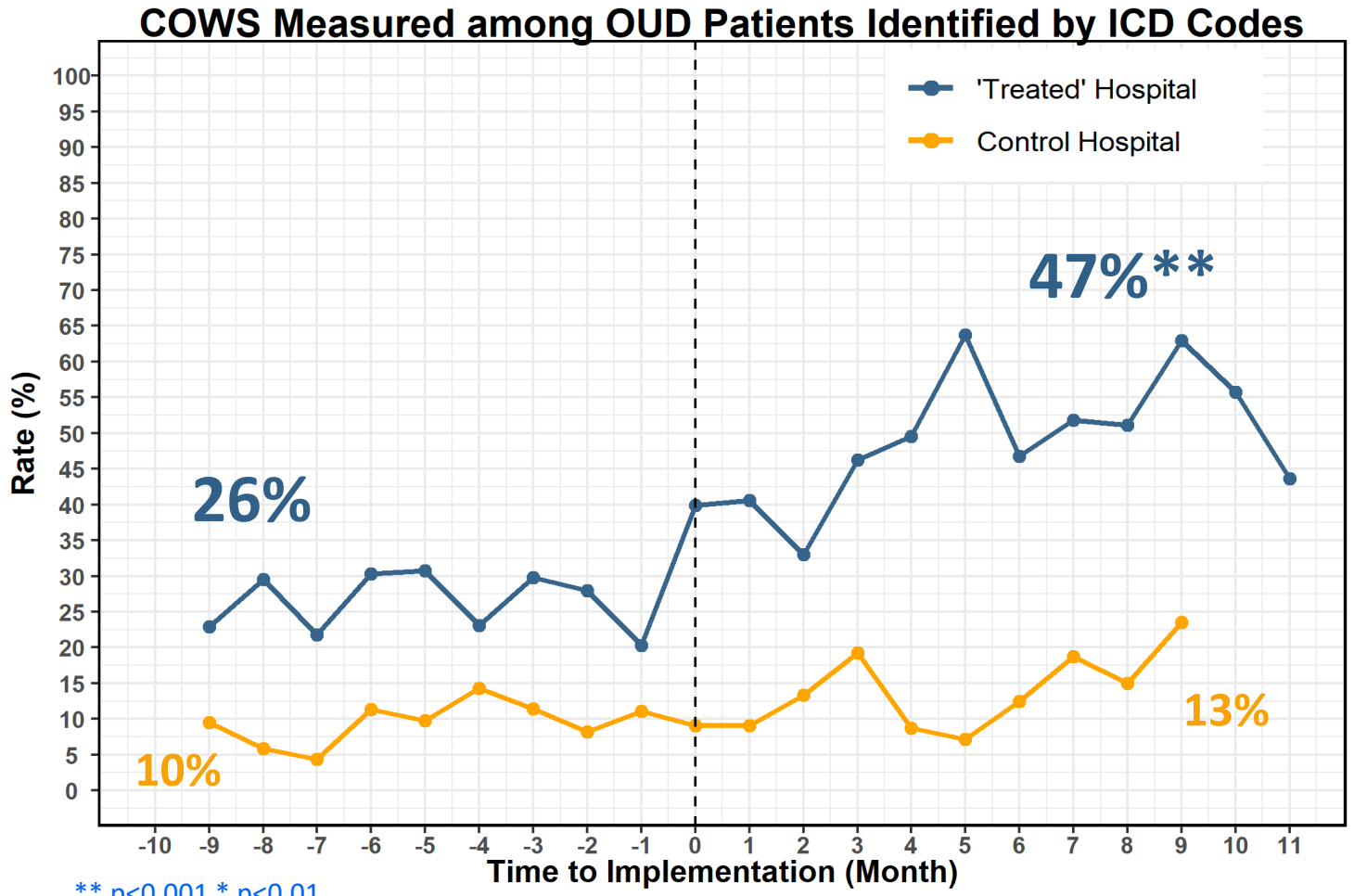
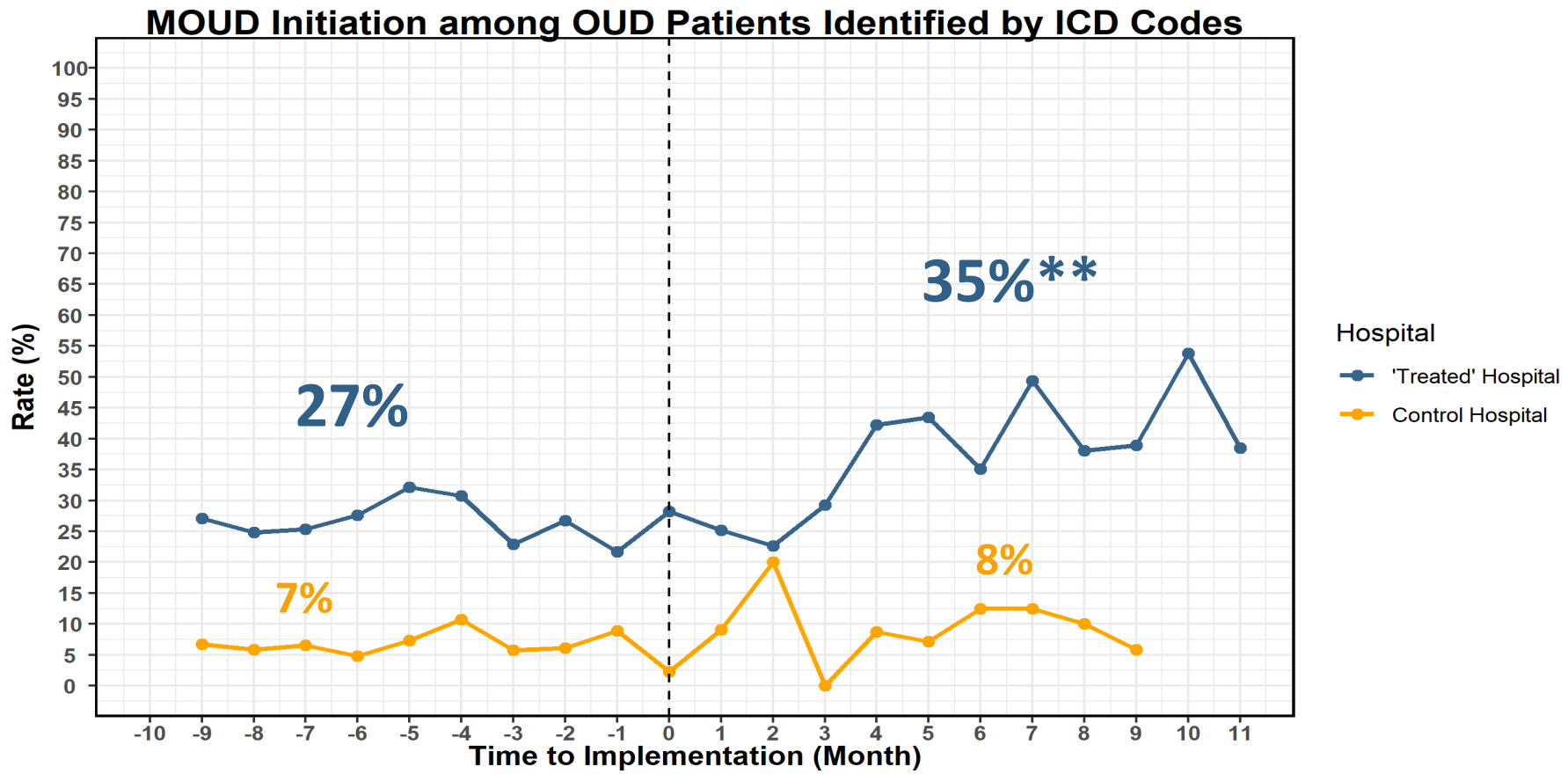
Lowenstein…Delgado, NEJM Catalyst, 2021

Significant increases in COWS in treated hospitals



** p<0.001 * p<0.01

Significant increases in MOUD use in treated hospitals



** p<0.001 * p<0.01

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Equity in Treatment Effects by Sex, Race (all increased <p, 0.05)

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Visits identified using OUD-related ICD codes	Treated Hospitals		Control Hospitals	
	Pre	Post	Overall	Pre
n = OUD-related ICD codes	1258	1057	691	459
COWS Measured, overall	26%	**47%**	10%	13%
Male	27%	**45%**	12%	14%
Female	26%	**51%**	7%	11%
White	26%	**49%**	9%	13%
Non-White	26%	**45%**	12%	14%
Any MOUD, overall	27%	**35%**	7%	8%
Male	26%	**34%**	7%	6%
Female	27%	**36%**	7%	11%
White	25%	**35%**	7%	7%
Non-White	28%	**34%**	7%	11%

Questions?

More Questions? Mucio.Delgado@pennmedicine.upenn.edu

Thank You