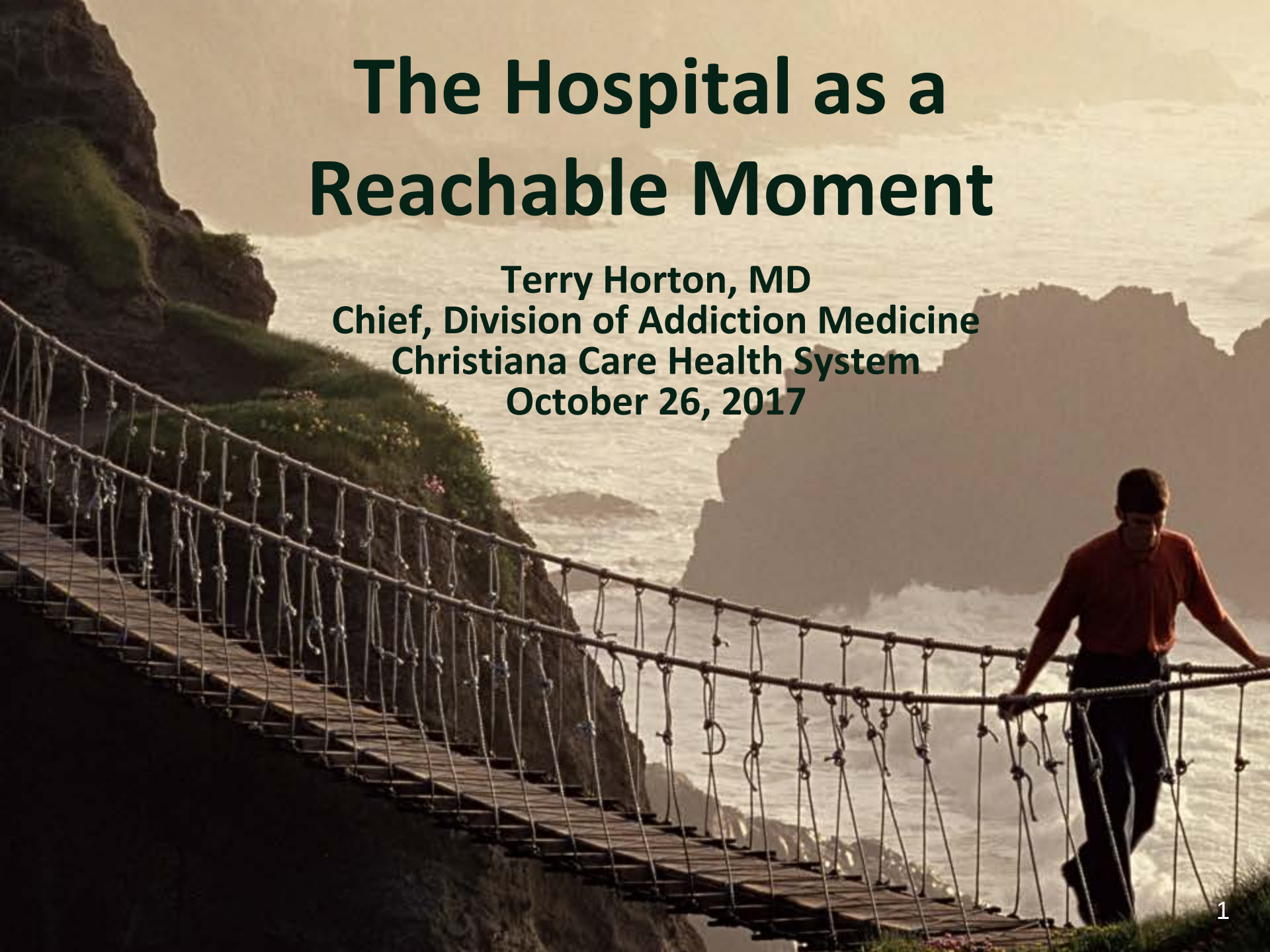


The Hospital as a Reachable Moment

Terry Horton, MD
Chief, Division of Addiction Medicine
Christiana Care Health System
October 26, 2017

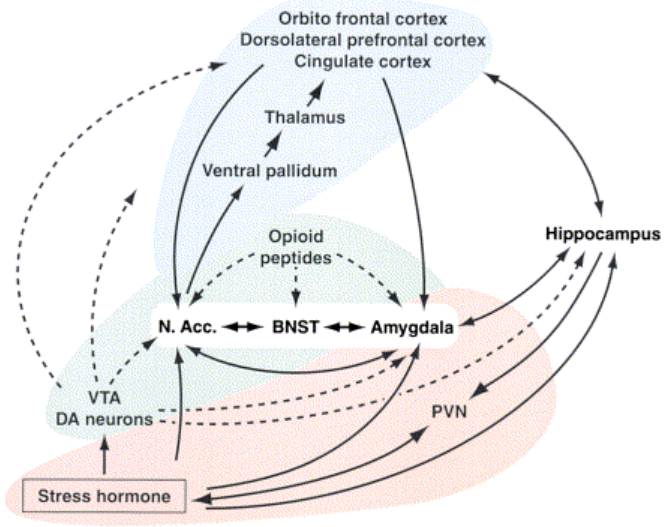
Overview

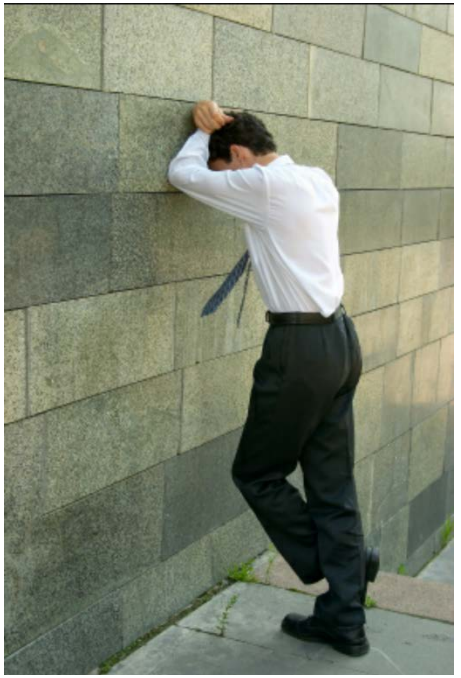
1. Opioid epidemic is driving a reconsideration of how health systems address addiction
2. Addressing opioid withdrawal on the medical floor of a hospital provides a reachable moment to engage opioid use disordered patients
3. Christiana Care's response

No Financial Disclosures

Opioid Withdrawal

- With dependence, brain mal adapts
- Collection of reproducible symptoms when opioids are removed – PRIMAL MISERY
- Highly motivating





Hospitals Aggregate the Addicted

- Doors are always open
- Substance use disorders are common and severe*
- High dosages of heroin/fentanyl
- **IVDA** instead of inhaled
- Early medical sequelae
- Increasing OD rate

* Saitz, JGIM, 2006; Bertholet, JGIM, 2010

Opioid Withdrawal is a Safety Issue

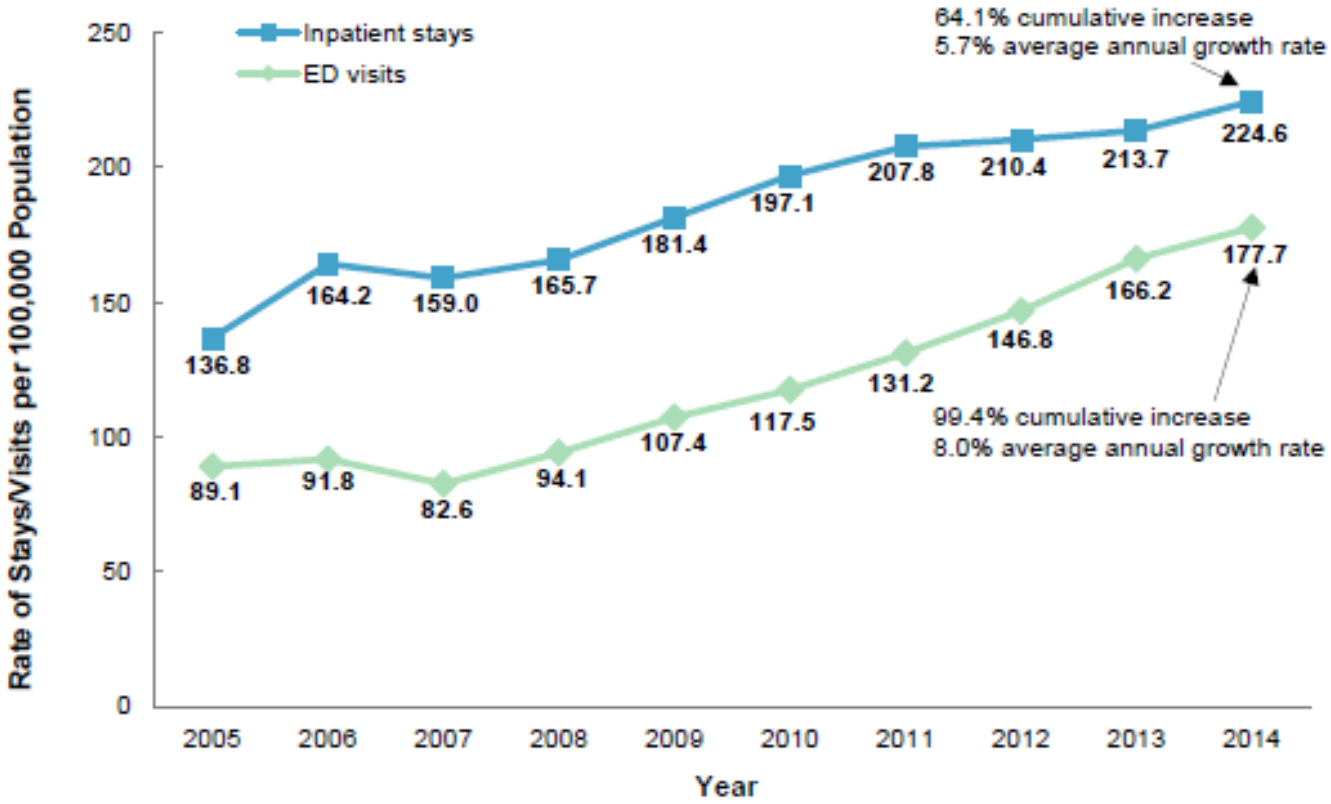
Poorly addressed opioid withdrawal negatively impacts:

1. ability to address acute serious health consequences of addiction
2. ability to engage and transition into community-based drug treatment

Ti, Am J Public Health. 2015 Dec;105(12):e53-9. http://www.ncbi.nlm.nih.gov/pubmed/26509447
Ti, PLoS One. 2015 Oct 28; http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4624845/

Rising Opioid-related Inpt and ED Visits

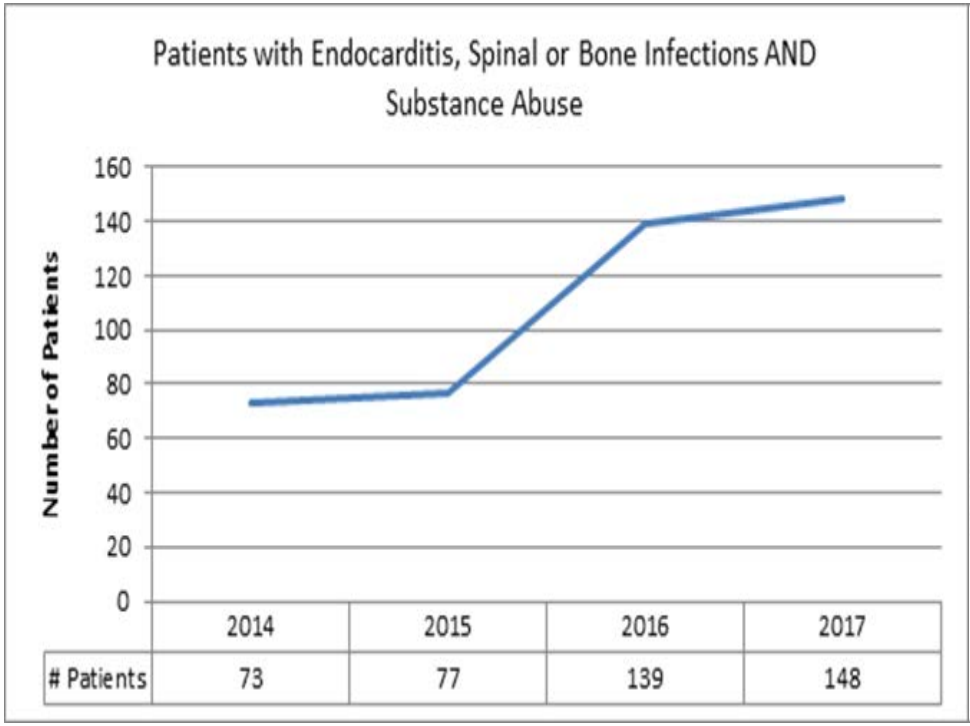
Figure 1. National rate of opioid-related inpatient stays and emergency department visits, 2005–2014

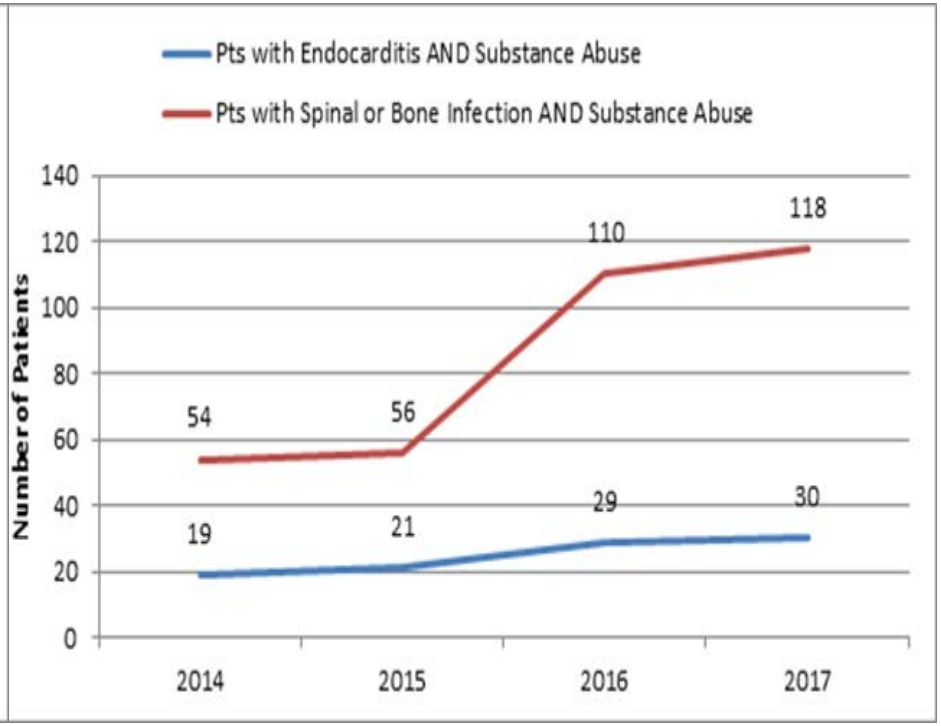


Abbreviation: ED, emergency department

Source: Agency for Healthcare Research and Quality (AHRQ), Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project (HCUP), HCUP Fast Stats, Opioid-Related Hospital Use (http://www.hcup-us.ahrq.gov/faststats/landing.jsp) based on the HCUP National (Nationwide) Inpatient Sample (NIS) and the HCUP Nationwide Emergency Department Sample (NEDS)

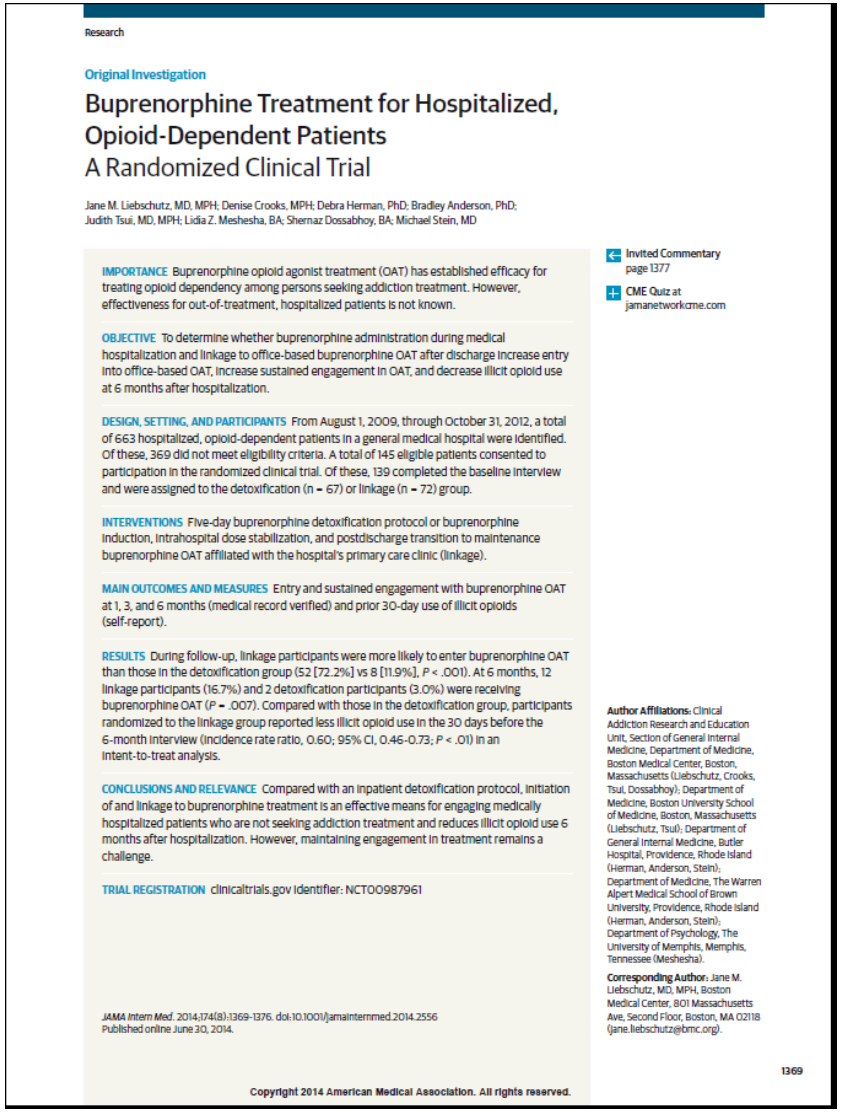
Impact on CCHS





- Rates of endocarditis, spinal and bone infections are increasing
- Each requires 6 week hospitalization for IV ABX via PICC line
- Anticipate 6216 bed days used in 2017

Intervening on the Medical Ward



Research

Original Investigation

Buprenorphine Treatment for Hospitalized, Opioid-Dependent Patients
A Randomized Clinical Trial

Jane M. Liebschutz, MD, MPH; Denise Crooks, MPH; Debra Herman, PhD; Bradley Anderson, PhD; Judith Tsui, MD, MPH; Lidia Z. Meshesha, BA; Shernaz Dossabhoy, BA; Michael Stein, MD

IMPORTANCE Buprenorphine opioid agonist treatment (OAT) has established efficacy for treating opioid dependency among persons seeking addiction treatment. However, effectiveness for out-of-treatment, hospitalized patients is not known.

OBJECTIVE To determine whether buprenorphine administration during medical hospitalization and linkage to office-based buprenorphine OAT after discharge increase entry into office-based OAT, increase sustained engagement in OAT, and decrease illicit opioid use at 6 months after hospitalization.

DESIGN, SETTING, AND PARTICIPANTS From August 1, 2009, through October 31, 2012, a total of 663 hospitalized, opioid-dependent patients in a general medical hospital were identified. Of these, 369 did not meet eligibility criteria. A total of 145 eligible patients consented to participation in the randomized clinical trial. Of these, 139 completed the baseline interview and were assigned to the detoxification (n = 67) or linkage (n = 72) group.

INTERVENTIONS Five-day buprenorphine detoxification protocol or buprenorphine induction, intrahospital dose stabilization, and postdischarge transition to maintenance buprenorphine OAT affiliated with the hospital's primary care clinic (linkage).

MAIN OUTCOMES AND MEASURES Entry and sustained engagement with buprenorphine OAT at 1, 3, and 6 months (medical record verified) and prior 30-day use of illicit opioids (self-report).

RESULTS During follow-up, linkage participants were more likely to enter buprenorphine OAT than those in the detoxification group (52 [72.2%] vs 8 [11.9%], $P < .001$). At 6 months, 12 linkage participants (16.7%) and 2 detoxification participants (3.0%) were receiving buprenorphine OAT ($P = .007$). Compared with those in the detoxification group, participants randomized to the linkage group reported less illicit opioid use in the 30 days before the 6-month interview (incidence rate ratio, 0.60; 95% CI, 0.46-0.73; $P < .01$) in an intent-to-treat analysis.

CONCLUSIONS AND RELEVANCE Compared with an inpatient detoxification protocol, initiation of and linkage to buprenorphine treatment is an effective means for engaging medically hospitalized patients who are not seeking addiction treatment and reduces illicit opioid use 6 months after hospitalization. However, maintaining engagement in treatment remains a challenge.

TRIAL REGISTRATION clinicaltrials.gov Identifier: NCT00987961

Invited Commentary page 1377

CME Quiz at jamanetworkcme.com

Author Affiliations: Clinical Addiction Research and Education Unit, Section of General Internal Medicine, Department of Medicine, Boston Medical Center, Boston, Massachusetts (Liebschutz, Crooks, Tsui, Dossabhoy); Department of Medicine, Boston University School of Medicine, Boston, Massachusetts (Liebschutz, Tsui); Department of General Internal Medicine, Butler Hospital, Providence, Rhode Island (Herman, Anderson, Stein); Department of Medicine, The Warren Alpert Medical School of Brown University, Providence, Rhode Island (Herman, Anderson, Stein); Department of Psychology, The University of Memphis, Memphis, Tennessee (Meshesha).

Corresponding Author: Jane M. Liebschutz, MD, MPH, Boston Medical Center, 801 Massachusetts Ave, Second Floor, Boston, MA 02118 (jane.liebschutz@bmc.org).

JAMA Intern Med. 2014;174(8):1369-1376. doi:10.1001/jamainternmed.2014.2556
Published online June 30, 2014.

JAMA Internal Medicine

N = 139 opioid-dependent patients admitted into a general medical hospital

- 5 day bup induction, stabilization and transition vs. detox
- **Improved linkage** **72.2% vs 11.9%,** ($P < .001$)
- **6 months retention** 16.7% vs 3.0% ($P = .007$)
- **less illicit opioid use** in the 30 days before the 6-month interview (incidence rate ratio, 0.60; 95%CI, 0.46-0.73; $P < .01$)

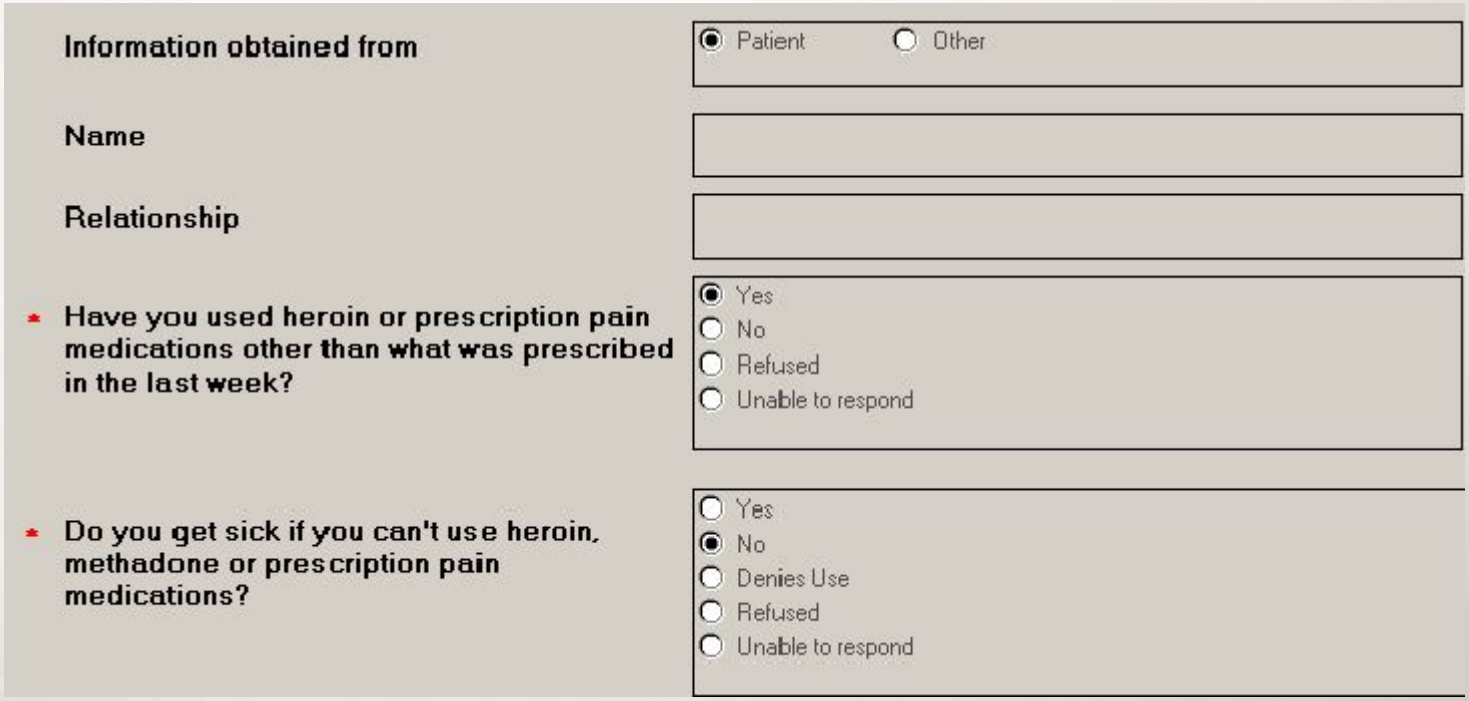
CCHS Response to the Opioid Epidemic

- 2016: Behavioral Health partnered with Acute Care Service Line
- Inpatient Medical Service
  - Screening and Identification of admitted patients
  - Rapid treatment of withdrawal by medical team
  - Inpatient initiation of drug abuse treatment
  - Addiction Medicine Consultation Service
  - Referral to community-based care using Project Engage
- Special pathway for pregnant women
- Outpatient
  - Medication-assisted treatment

Opioid Withdrawal Clinical Pathway

- **Opioid Withdrawal Risk Assessment (OWRA)**

  Yes to either question prompts patient for next screening process – COWS assessment of withdrawal.



CHRISTIANA CARE HEALTH SYSTEM

Clinical Opiate Withdrawal Scale (COWS) - [redacted]

Clinical Opiate
Abbreviations
Instructions

Clinical Opioid Withdrawal Scale (COWS)

*** Resting Pulse Rate:**
(Measured after patient is sitting or lying for one minute.)

- ○ Pulse rate 80 or below
- ◉ Pulse rate 81-100
- ○ Pulse rate 101-120
- ○ Pulse rate greater than 120

*** Sweating:**
(Over past half hour not accounted for by room temperature or patient activity)

- ◉ No report of chills or flushing
- ○ Subjective report of chills or flushing
- ○ Flushed or observable moistness on face
- ○ Beads of sweat on brow or face
- ○ Sweat streaming off face

*** Restlessness Observation During Assessment**

- ○ Able to sit still
- ○ Reports difficulty sitting still, but is able to do so
- ○ Frequent shifting or extraneous movements of legs/arms
- ◉ Unable to sit still for more than a few seconds

*** Pupil Size**

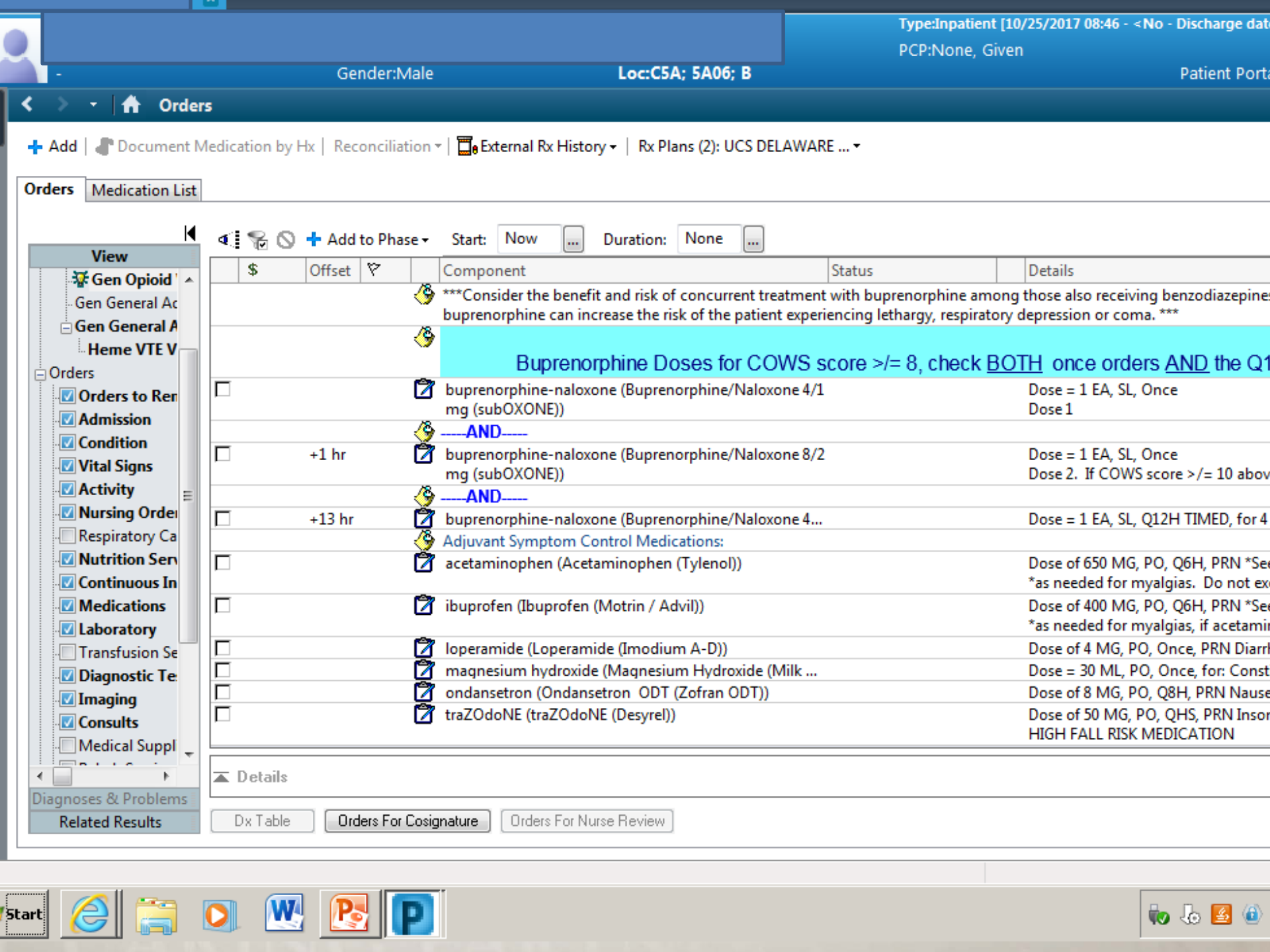
- ◉ Pupils pinned or normal size for room light
- ○ Pupils possibly larger than normal for room light
- ○ Pupils moderately dilated
- ○ Pupils so dilated that only the rim of the iris is visible

*** Bone or Joint Aches**
(If patient was having pain previously, only the additional component attributed to opiate withdrawal is scored)

- ○ Not present
- ○ Mild diffuse discomfort
- ○ Patient reports severe diffuse aching of joints/muscles
- ◉ Patient is rubbing joints or muscles and is unable to sit still because of discomfort

Right
for Re

Processing form...


Type:Inpatient [10/25/2017 08:46 - <No - Discharge dat
PCP:None, Given
Gender:Male
Loc:C5A; 5A06; B
Patient Porta
Orders
Add | Document Medication by Hx | Reconciliation | External Rx History | Rx Plans (2): UCS DELAWARE ...
Orders
Medication List
View
Gen Opioid
Gen General Ac
Gen General A
Heme VTE V
Orders
Orders to Ren
Admission
Condition
Vital Signs
Activity
Nursing Orde
Respiratory Ca
Nutrition Serv
Continuous In
Medications
Laboratory
Transfusion Se
Diagnostic Te
Imaging
Consults
Medical Suppl
Diagnoses & Problems
Related Results
Add to Phase
Start: Now
Duration: None
$
Offset
Component
Status
Details
***Consider the benefit and risk of concurrent treatment with buprenorphine among those also receiving benzodiazepines
buprenorphine can increase the risk of the patient experiencing lethargy, respiratory depression or coma. ***
Buprenorphine Doses for COWS score >/= 8, check BOTH once orders AND the Q1
buprenorphine-naloxone (Buprenorphine/Naloxone 4/1 mg (subOXONE))
Dose = 1 EA, SL, Once
Dose 1
-----AND-----
+1 hr
buprenorphine-naloxone (Buprenorphine/Naloxone 8/2 mg (subOXONE))
Dose = 1 EA, SL, Once
Dose 2. If COWS score >/= 10 abov
-----AND-----
+13 hr
buprenorphine-naloxone (Buprenorphine/Naloxone 4...
Dose = 1 EA, SL, Q12H TIMED, for 4
Adjuvant Symptom Control Medications:
acetaminophen (Acetaminophen (Tylenol))
Dose of 650 MG, PO, Q6H, PRN *Se
*as needed for myalgias. Do not ex
ibuprofen (Ibuprofen (Motrin / Advil))
Dose of 400 MG, PO, Q6H, PRN *Se
*as needed for myalgias, if acetamin
loperamide (Loperamide (Imodium A-D))
Dose of 4 MG, PO, Once, PRN Diarr
magnesium hydroxide (Magnesium Hydroxide (Milk ...
Dose = 30 ML, PO, Once, for: Const
ondansetron (Ondansetron ODT (Zofran ODT))
Dose of 8 MG, PO, Q8H, PRN Nause
traZODoNE (traZODoNE (Desyrel))
Dose of 50 MG, PO, QHS, PRN Insor
HIGH FALL RISK MEDICATION
Details
Dx Table
Orders For Cosignature
Orders For Nurse Review
Start

Project Engage

- Since 2008, 2000 patients/yr in the Inpt hospital, ED and outpt clinics
- Imbedded Peer counselor from local drug treatment program
- Bedside peer-to-peer intervention using Motivational Interviewing
- Partnering with a Social Worker for rapid discharge planning

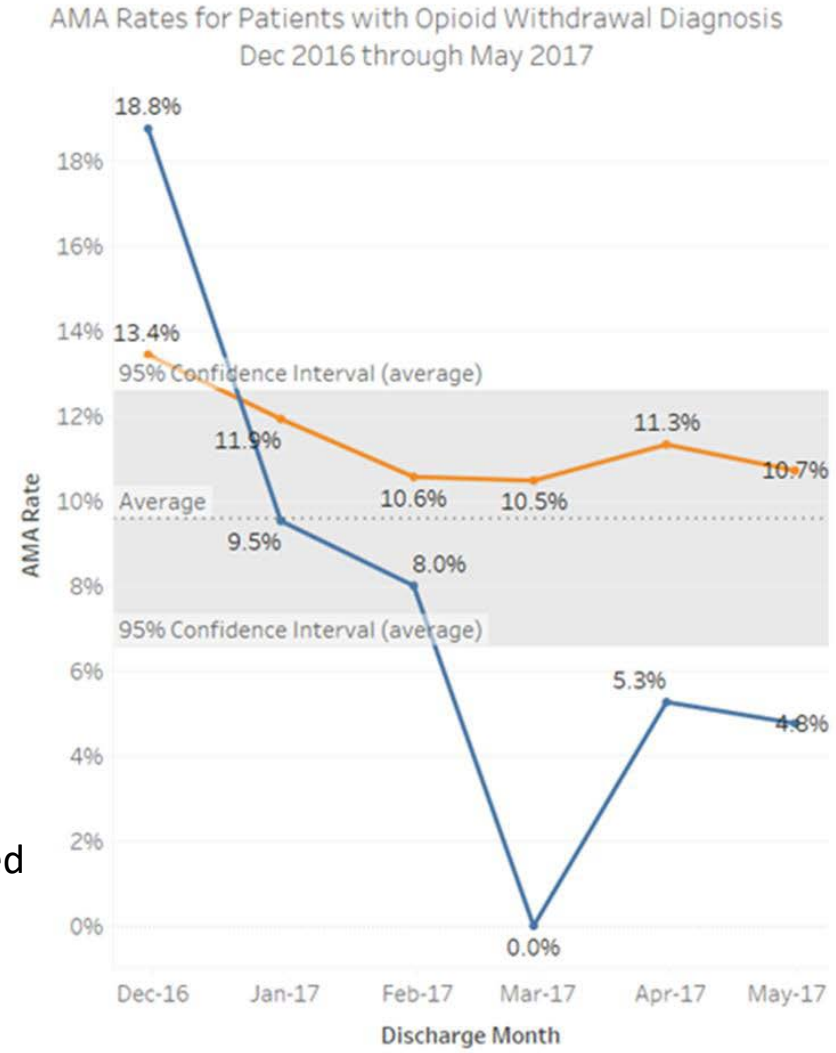
CHRISTIANA CARE HEALTH SYSTEM

Addiction Medicine Consult Liaison

- Initially starte ioid Pathway adoption at b
- One full time se Practitioner
- Project Engag /Social Worker partnering ar
- Goals: Patient support

Opioid Withdrawal Clinical Pathway Results

7 months of performance	#	%
Total Medical Service Admissions	**34,503**	
Total Medical Service Admission Screened	**24,748**	**72**
Total Screened positive	**767**	**3.1**
Showing opioid withdrawal COWS > 8	**173**	**.7**



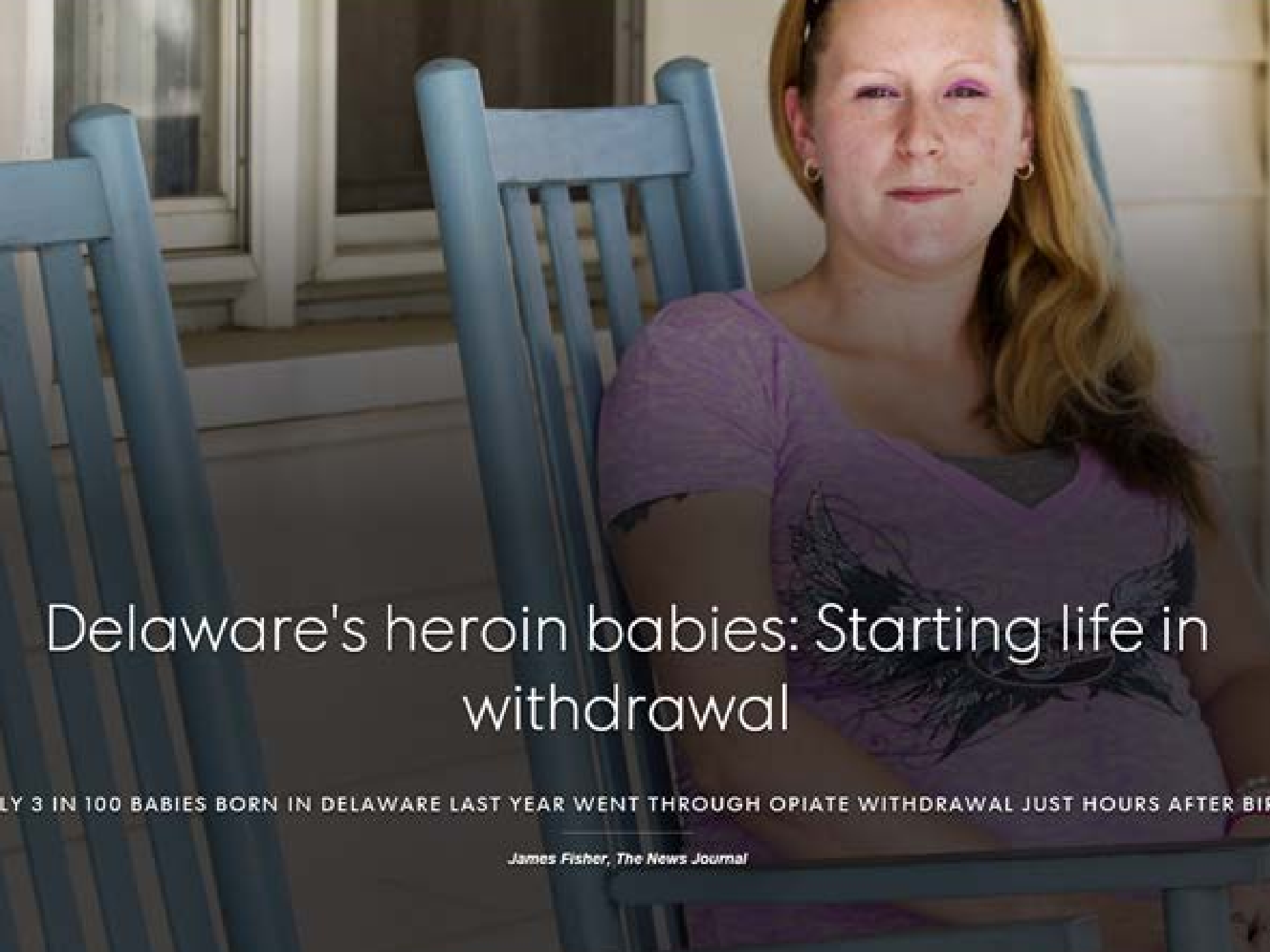
- 22.5% of screen + have opioid withdrawal
- 49.7% of patients in Opioid Withdrawal (COWS>=8) receive bup/naloxone
- Estimate identifying 300+ opioid use disordered patients a year not engaged in treatment
- Value Institute partnering on validation study

Reachable Moment

Early Outcomes from Addiction Medicine CL

- 53/86 **(62%)** asked to remain on agonist therapy and transition to community care
  - Only 27/86 refused
  - 4/86 already in care
  - 12/ 86 ama, rest into nursing homes or ICU
- 10/27 (37%) who refused, signed out AMA vs 4% accepting
- 41/53 **(78%)** successfully attended their initial appt
- 29/40 **(71%)** retained at least 1 month at the community program
- 180 patients, **2/3** requesting MAT of which **63%** remain in MAT at one month


Outcomes Limited by
Quality of the Continuum



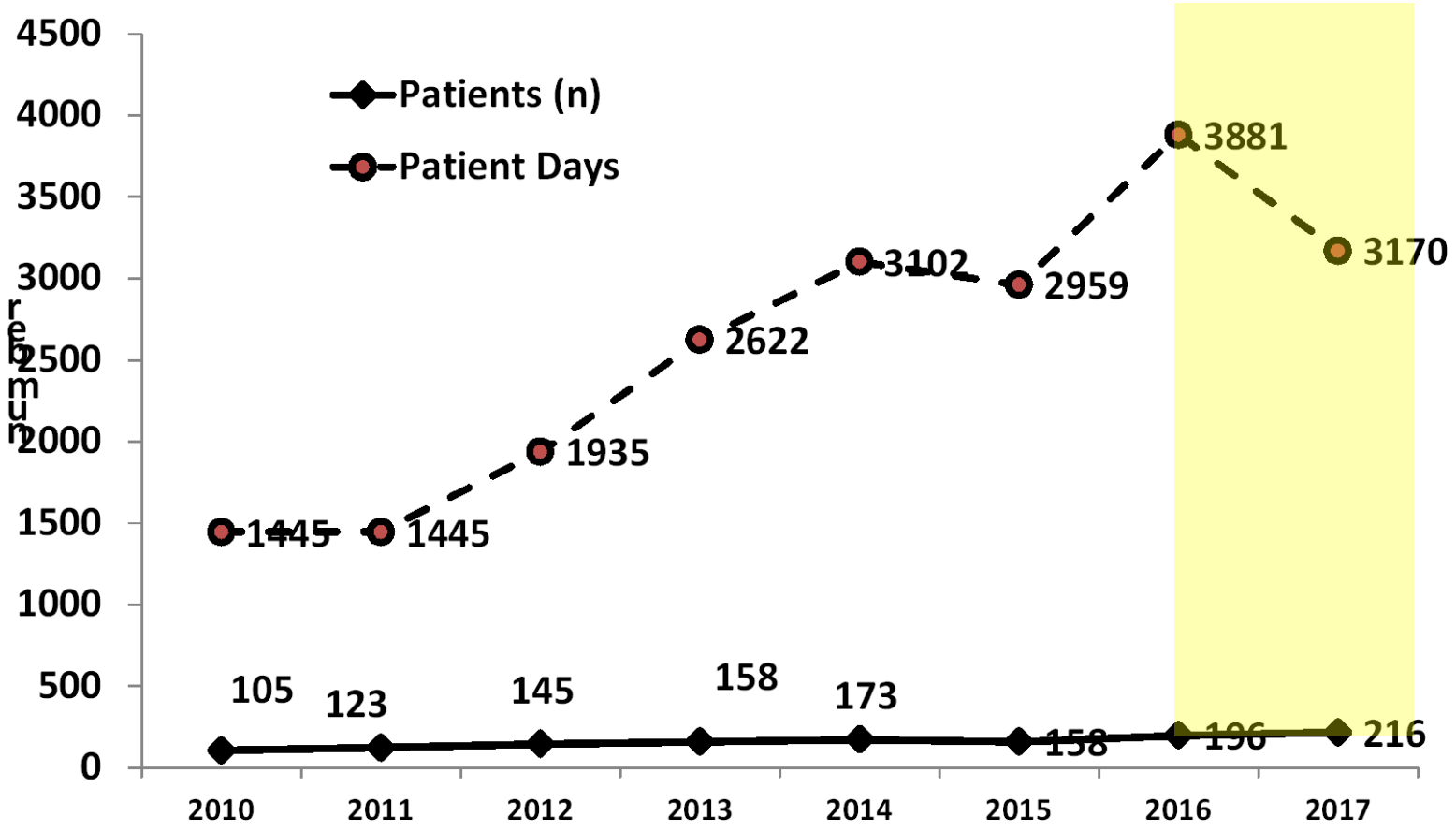
Delaware's heroin babies: Starting life in withdrawal

LY 3 IN 100 BABIES BORN IN DELAWARE LAST YEAR WENT THROUGH OPIATE WITHDRAWAL JUST HOURS AFTER BI

James Fisher, The News Journal

NAS Patient Days

Christiana Hospital 2010 -2017 (est. q1-2)



Modified from
Zadzielski, 2017

CHRISTIANA CARE HEALTH SYSTEM

Next Steps at CCHS

1. Roll out Opioid Withdrawal Pathway to Critical Care, ED, and Surgical Services
2. Integration of a psychologist into Project Engage and Consult Liaison team, start screening and treatment of trauma/PTSD
3. Expand outpatient capacity for bup/naloxone and extended release naltrexone treatment

Summary

1. Hospital inpt services aggregate opioid use disordered patients
2. Opioid withdrawal provides a reachable moment
3. Opioid pathway is showing early success identifying, engaging and transitioning patients into early recovery
4. Ultimately, outcomes will require robust long term recovery continuum