VANDERBILT HEALTH

# Addiction consultation in the general hospital setting

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No conflicts or disclosures.

# Objectives

1. Define the “treatment gap” for individuals with substance use disorders (SUD) in the US population.

2. Identify common presenting SUD-related problems in the general hospital setting.

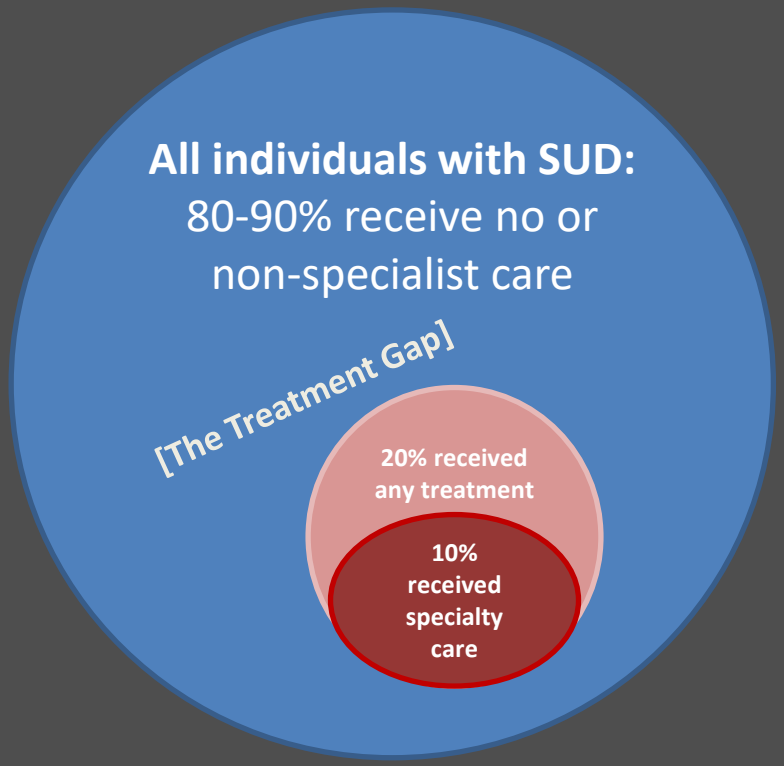
3. Describe the composition and goals of specialty addiction consultation in the general hospital setting.

4. Review current evidence for improved outcomes associated with addiction consultation.

# Defining the “treatment gap”

80-90% of individuals with SUD do not receive specialty addiction treatment in the US.

[NSDUH 2019]



# Defining the “treatment gap”

Individuals with SUD experience significant comorbidities across organ systems, leading to high acute care use.

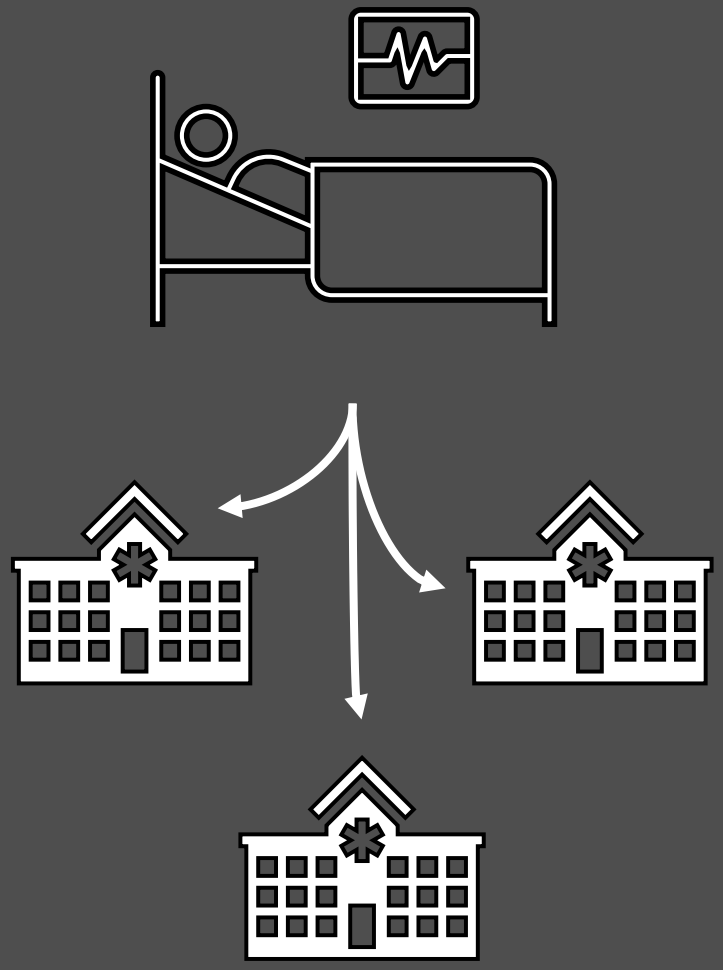
15-20% of general medical inpatients have an SUD.

[Weinstein et al. 2018]

22-39% experience readmission within 30 days of discharge.

[Wakeman et al. 2020; Weinstein et al. 2020]

15-20% have SUD



22-39% are readmitted

# General hospital admissions with SUD

Infectious complications of injection use

Traumatic or burn injuries

Alcohol or sedative/hypnotic withdrawal

Overdose

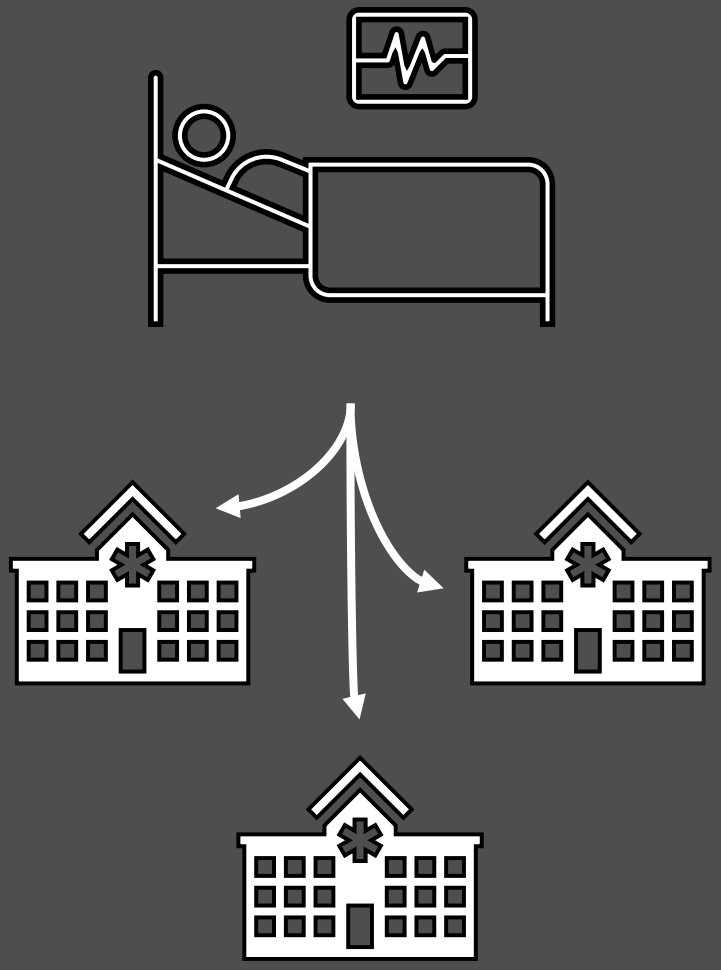
Pain crisis with opioid dependence

Acute liver disease

Acute heart disease

Pregnancy

15-20% have SUD



22-39% are readmitted

# An additional "education gap"

Tetrault et al. and Ram et al. describe an "education gap" in medical training.

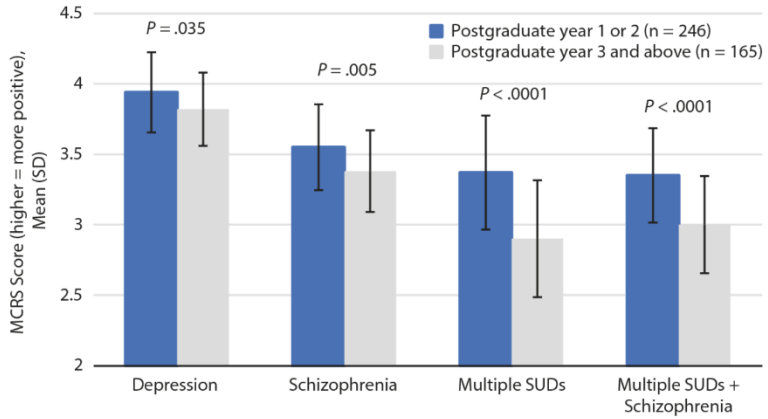
<12 hours of curricular time devoted to training in addiction.

<10% of medical schools have a separate course on addiction.

A latent "hidden curriculum" in hospital-based training also worsens clinician bias and stigma.

Avery et al. 2019

**Figure 1. Changes in Attitude Toward Different Diagnosis by First or Second Half of Training**




Contents lists available at SciVerse ScienceDirect

Drug and Alcohol Dependence

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Stigma among health professionals towards patients with substance use disorders and its consequences for healthcare delivery: Systematic review

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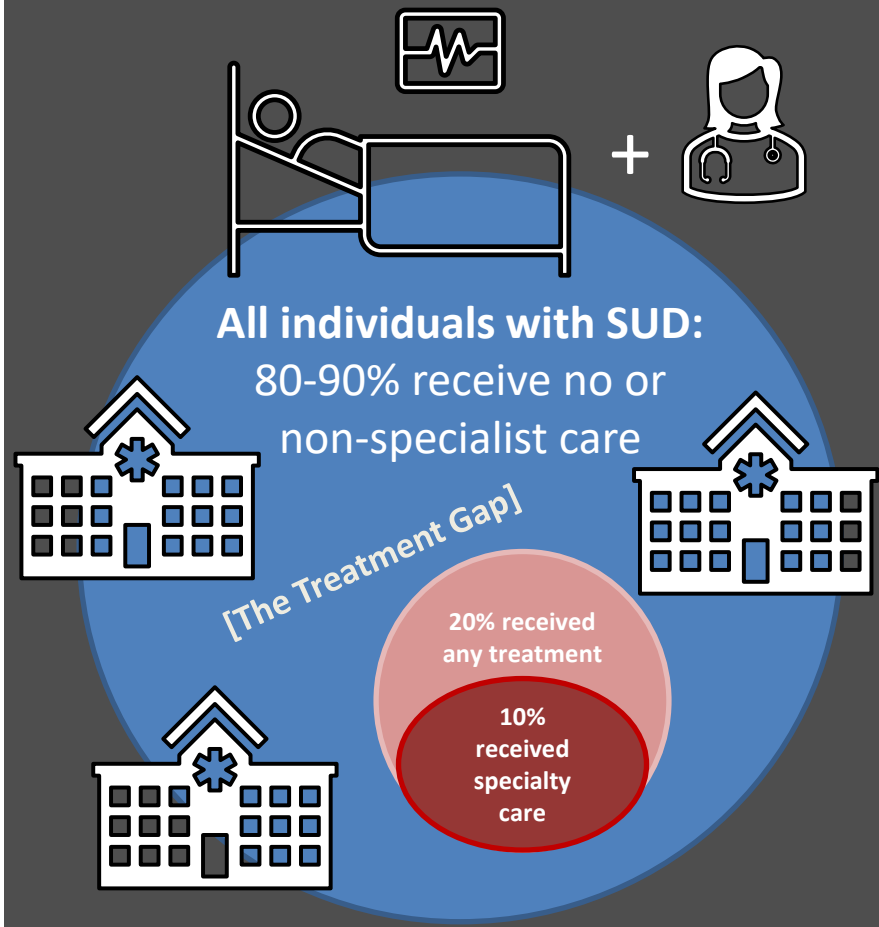
# Filling-in the gaps

Addiction consultation services are emerging service lines in the general hospital setting offering interventions to individuals with SUD in the treatment gap.

[McNeely et al. 2019; Weinstein et al. 2018]



PUBLIC HEALTH

# Hospitals have specialists on call for lots of diseases — but not addiction. Why not?

September 30, 2022 · 10:14 AM ET

MARTHA BEBINGER

FROM wbur


npr

90.3 wpln news

# Addiction Consultation Goals

1. Increase access to evidence-based interventions for SUD
2. Improve transitions from general hospital to ongoing addiction treatment
3. Reduce morbidity and mortality associated with SUD
4. Address education gaps for colleagues and the health system

# Designing the team

- Weinstein et al. identified 6 Addiction Consult Services across the US in 2018
- Patient identification:
  - Universal screening vs primary team consultation
- Team composition:
  - Physician or APP to guide pharmacotherapy
  - Social work or nurse case manager for psychosocial interventions and transition management
  - Recovery coach or peer navigator to assist motivational interviewing and patient navigation

# Anatomy of an Addiction Consultation

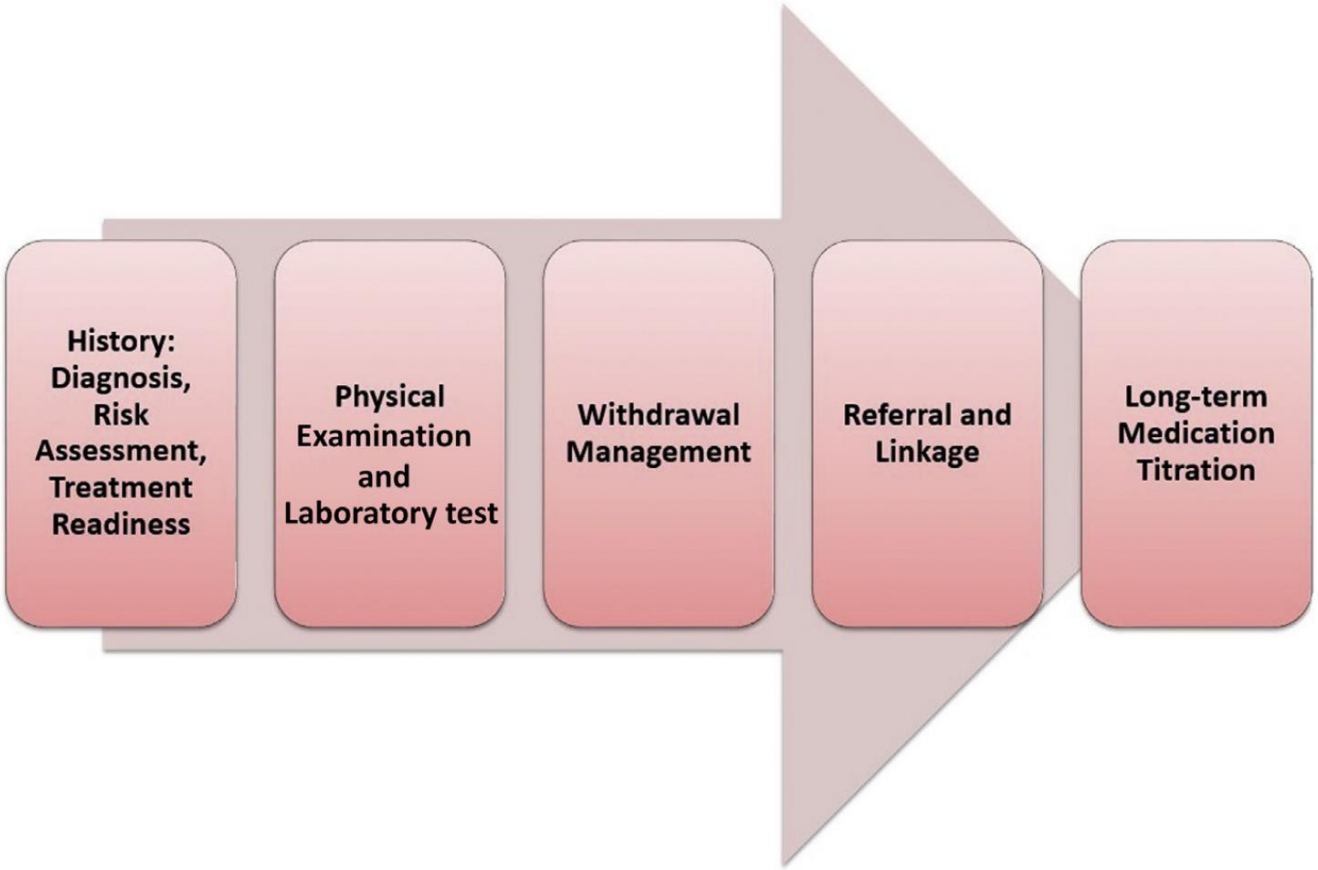



**Fig. 1.** Components of an addiction consult.

Weinstein et al. 2018

# Consultation patient population

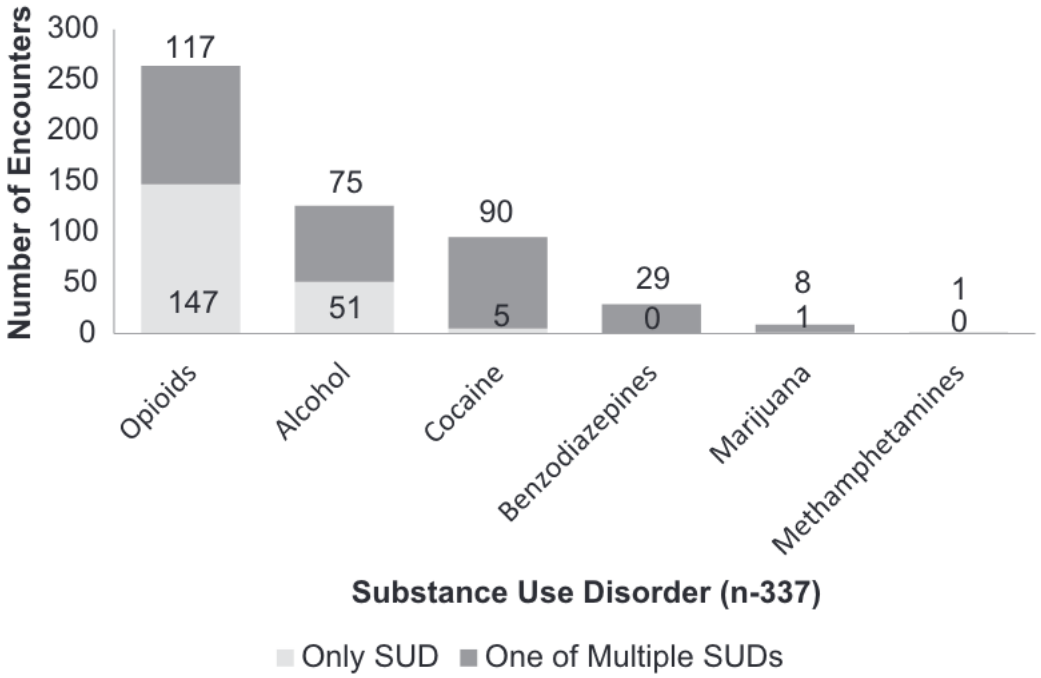



**Fig. 1.** Substance use disorders diagnosed.

Trowbridge et al. 2017

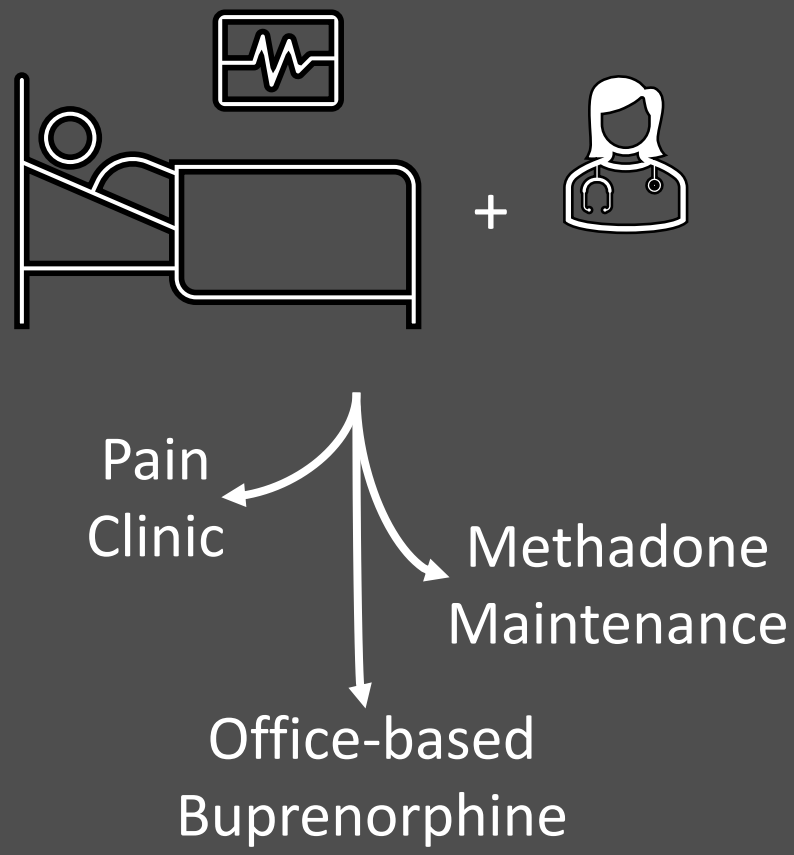
# Case examples

45-year-old woman admitted with spinal osteomyelitis and abscess around prior hardware.

Previously following in a pain clinic on chronic opioid therapy, though recently lost provider.

Difficult-to-control pain despite >100 MME opioid analgesia and multimodal therapy.

Concerns for “drug seeking” behavior during pain exacerbations.



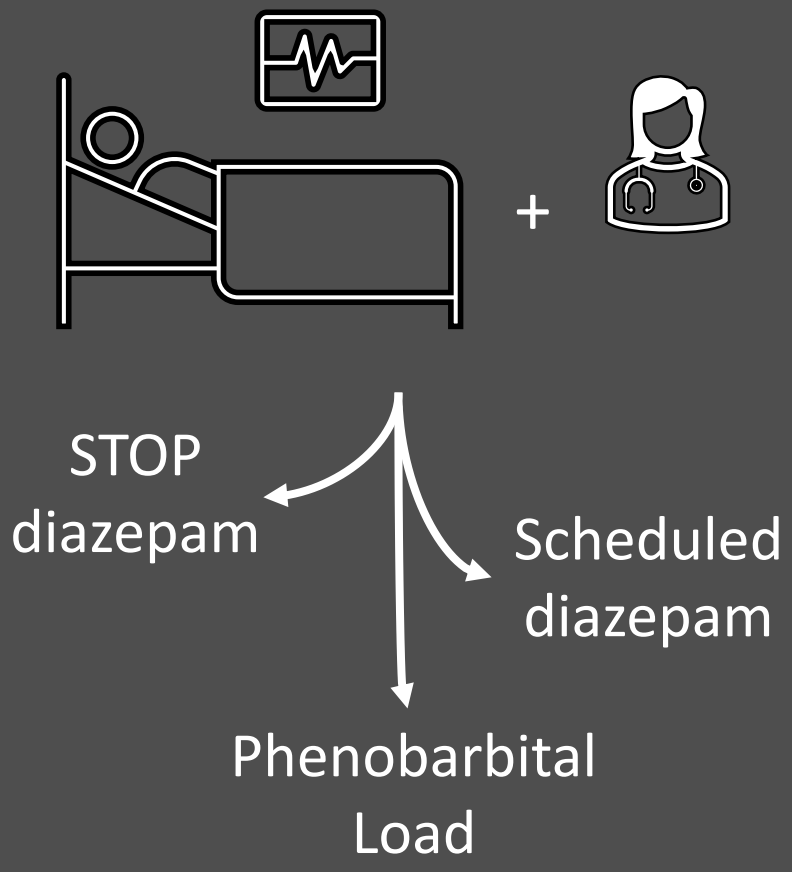
# Case examples

55-year-old man admitted for congestive heart failure, with daily alcohol use.

Started on symptom-triggered diazepam protocol for alcohol withdrawal.

Persistently elevated withdrawal symptom (CIWA) scores despite 100 mg diazepam.

Increasing behavioral dysregulation, concerning for delirium.



How does Addiction Consultation affect patient outcomes?

# EVIDENCE SUPPORTING IMPROVED OUTCOMES

# Increased pharmacotherapy use

Increased naltrexone initiation for alcohol use disorder, from 0% to 64%.

Associated reduction in 30-day readmissions and ED visits, from 18-23% to 6-8%.

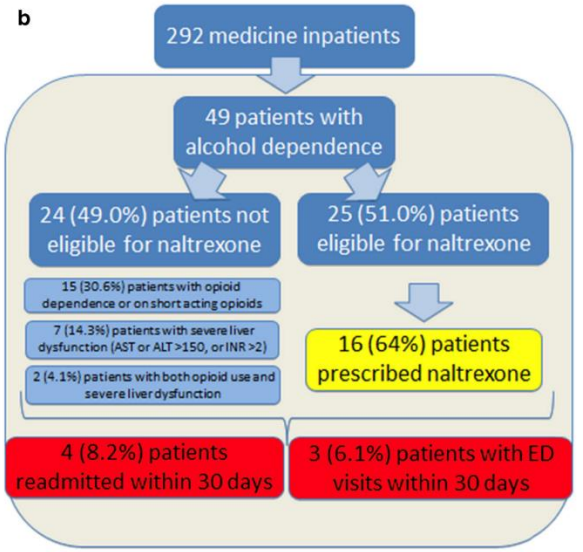



**Figure 1. Comparison of pre-intervention group (June 2011) (a), and post-intervention group (March 2012) (b). This figure breaks down the characteristics of all patients with alcohol dependence admitted during the two comparison months. Regarding eligibility criteria for treatment with naltrexone, over 50 % of patients in both groups were eligible for treatment. The primary process measure was the percent of those patients eligible for naltrexone who were prescribed naltrexone. This increased from 0 % to 64 % ($p<0.001$) after the intervention. For the primary outcome measures, the rate of readmissions within 30 days decreased from 23.4 % to 8.2 % ($p=0.042$) and the rate of patients with emergency department (ED) visits within 30 days decreased from 18.8 % to 6.1 % ($p=0.056$).**

Wei et al. 2015

# Increased pharmacotherapy use

42% of individuals with OUD newly initiated on MOUD after consultation.

Good linkage to outpatient MOUD care: 49-76% attended first appointment.

Less robust linkage for AUD, with 33% attending first visit.

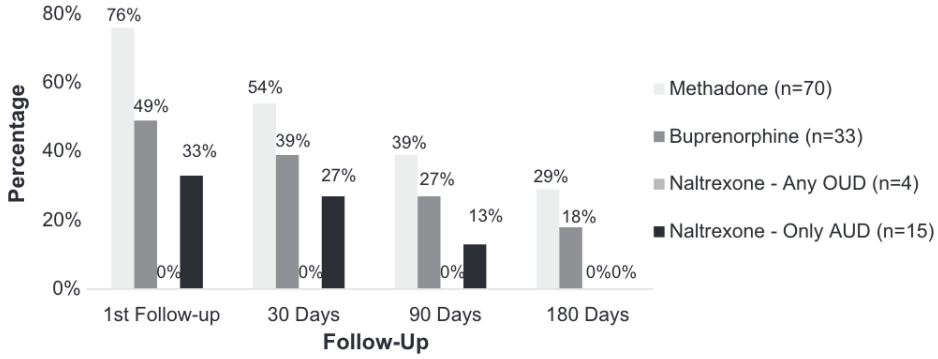



**Fig. 3.** Follow-up rates by medication.

Trowbridge et al. 2017

# Linkage to outpatient treatment

>80% linkage to methadone treatment

>50% admitted for ongoing treatment

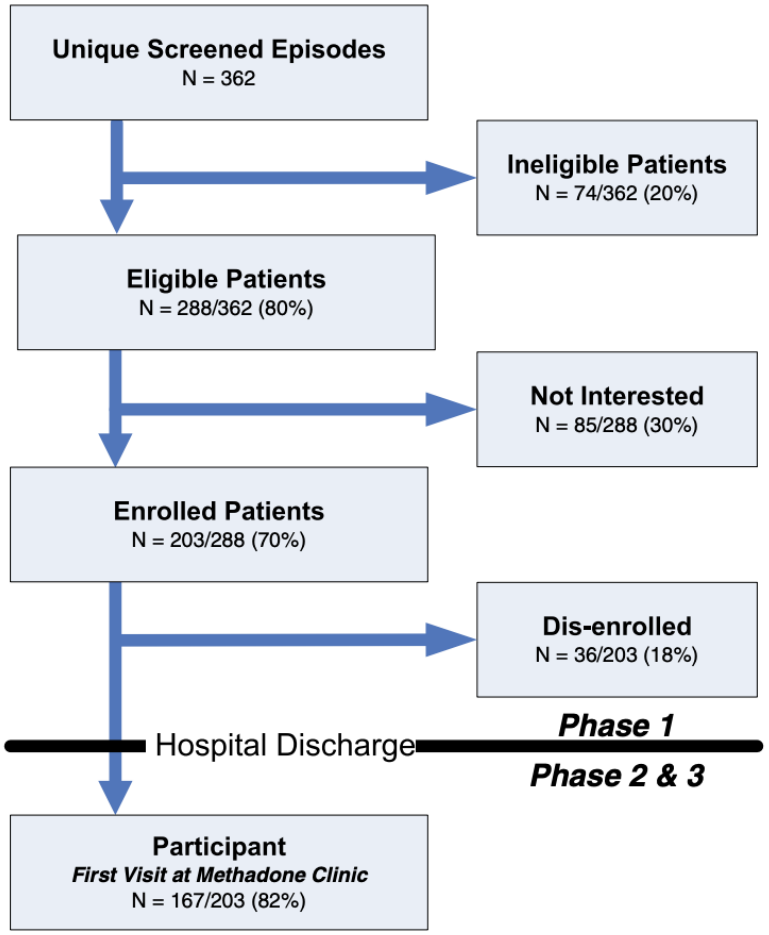



**Figure 1. Screening and enrollment schema of the transitional opioid program.**

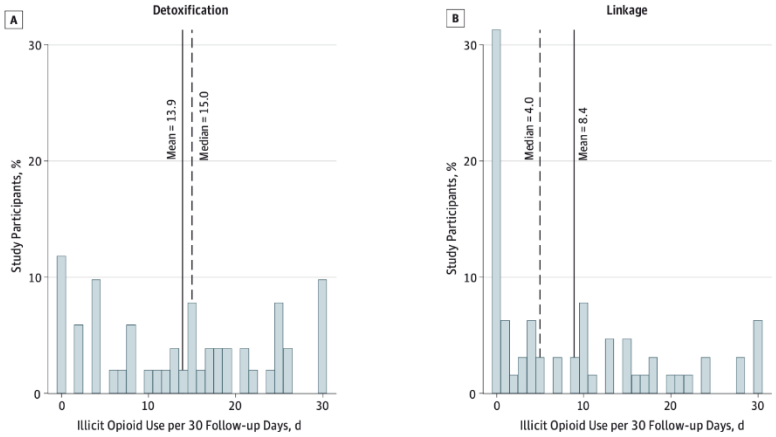
Shanahan et al. 2010

# Linkage to outpatient treatment

Increased linkage to buprenorphine treatment (72% vs 12%).

At 6-months, more ongoing buprenorphine treatment (16% vs 3%) and less opioid use.

Figure 2. Distribution of Rates of Illicit Opioid Use During Follow-up Assessment by Intervention in 116 Individuals




A, Detoxification group; B, linkage group. To facilitate description, rates were calculated as days of illicit opioid use per 30 follow-up days using all available data, including the mean of all assessments for each study participant with multiple follow-up data or any follow-up time point for participants with one time point.

Leibschutz et al. 2014

# Post-discharge abstinent days

Increased abstinent days at 30- and 90-days:

+11-12 vs +5 days.

Lower addiction severity index (ASI) scores 30 days post discharge.

**Table 2 Substance Use Outcomes**

| | | 30-Day follow-up | | | 90-Day follow-up | | |
|---|---|---|---|---|---|---|---|
| | | Intervention ($N$ = 165) | Control ($N$ = 100) | $P$ value | Intervention ($N$ = 144) | Control ($N$ = 83) | $P$ value |
| ASI alcohol | Baseline | 0.46 (0.33) | 0.28 (0.29) | <0.001 | 0.47 (.32) | 0.30 (0.31) | <0.001 |
| | Follow-up | 0.22 (0.22) | 0.20 (0.20) | 0.45 | 0.25 (0.22) | 0.20 (0.22) | 0.12 |
| | Change | −0.24 (0.28) | −0.08 (0.24) | <0.001 | −0.22 (0.29) | −0.10 (0.27) | 0.003 |
| | Adjusted difference* | −0.06 (0.02) | | 0.018 | −0.01 (0.03) | | 0.79 |
| ASI drug | Baseline | 0.13 (0.16) | 0.10 (0.11) | 0.057 | 0.12 (0.15) | 0.09 (0.11) | 0.17 |
| | Follow-up | 0.08 (0.11) | 0.08 (0.09) | 0.74 | 0.07 (0.08) | 0.07 (0.08) | 0.89 |
| | Change | −0.05 (0.11) | −0.02 (0.08) | 0.003 | −0.05 (0.11) | −0.02 (0.09) | 0.058 |
| | Adjusted difference* | −0.02 (0.01) | | 0.018 | −0.01 (0.01) | | 0.12 |
| Days abstinent | Baseline | 12.6 (10.6) | 19.1 (11.1) | <0.001 | 13.2 (11.0) | 18.6 (11.2) | <0.001 |
| | Follow-up | 25.3 (8.3) | 24.7 (7.9) | 0.57 | 24.3 (9.3) | 24.1 (9.9) | 0.88 |
| | Change | 12.7 (11.7) | 5.6 (10.2) | <0.001 | 11.0 (12.7) | 5.5 (10.5) | <0.001 |
| | Adjusted difference* | 2.59 (1.11) | | 0.02 | 1.70 (1.35) | | 0.21 |
| Overdose | Baseline | 0.23 (0.85) | 0.23 (0.96) | 0.99 | 0.24 (0.89) | 0.17 (0.60) | 0.5 |
| | Follow-up | 0.04 (0.30) | 0.06 (0.24) | 0.60 | 0.01 (0.08) | 0.04 (0.33) | 0.43 |
| | Change | −0.19 (0.73) | −0.17 (0.85) | 0.86 | −0.23 (0.90) | −0.13 (0.44) | 0.28 |
| | Adjusted difference* | −0.03 (0.03) | | 0.42 | 0.01 (0.01) | | 0.48 |

**The difference in changes from baseline to follow-up between intervention and control groups from regression models adjusting for age, gender, employment status, smoking status, and baseline value*

**Inpatient Addiction Consultation for Hospitalized Patients Increases Post-Discharge Abstinence and Reduces Addiction Severity**

*Sarah E. Wakeman, MD[1,2], Joshua P. Metlay, MD, PhD[1,2], Yuchiao Chang, PhD[1,2], Grace E. Herman, BA[3], and Nancy A. Rigotti, MD[1,2]*

[1]Division of General Internal Medicine, Massachusetts General Hospital, Boston, MA, USA; [2]Harvard Medical School, Boston, MA, USA; [3]Department of Psychiatry, Massachusetts General Hospital, Boston, MA, USA.

Wakeman et al. 2017

# Post-discharge mortality

Reduced 90-day all-cause mortality.

**Table 2. Average Treatment Effect[a] for Intervention Group (Defined by Referral to Addiction Medicine Consultation Service) and Propensity-Matched Controls, by Substance Use.**

| Outcomes | Average treatment effect | 95% CI | *p*-value |
|---|---|---|---|
| **Total sample** (*N*=711 intervention group; *n*=2172 control group) | | | |
| **90-day mortality (%)** | −2.35 | −3.57, −1.13 | <0.001 |

## Inpatient Addiction Medicine Consultation Service Impact on Post-discharge Patient Mortality: a Propensity-Matched Analysis

*J. Deanna Wilson, MD, MPH[1,2], Stefanie C. Altieri Dunn, PhD[3], Payel Roy, MD, MSc[1], Emily Joseph, MHA[1], Stephanie Klipp, RN, CARN[1,4], and Jane Liebschutz, MD, MPH[1]*

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Wilson et al. 2022

# Increased patient trust

After consultation:

- 38% increased trust
- 50% kept high trust

Associated with:

- addiction expertise
- reliability
- humanizing care
- granting agency

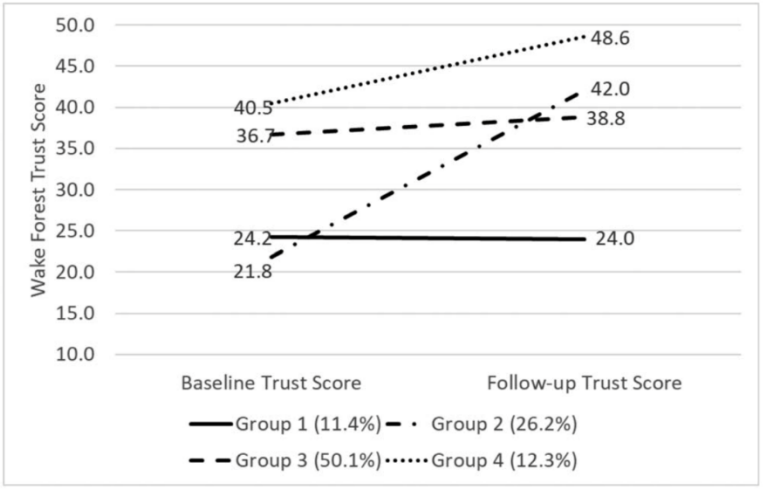



**FIGURE 2.** Trajectories of Wake Forest trust scale scores among IMPACT participants, 2015 to 2018.

King et al. 2020

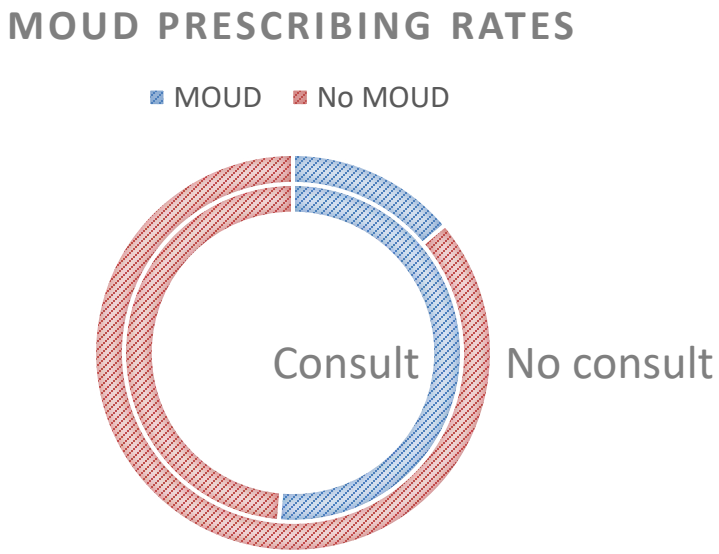
# Vanderbilt experience

>1,100 consults/year,

60-70% for opioid use disorder.

Increased medication for opioid use disorder (MOUD) prescribing:

51% vs 14%.




| MOUD prescribing rate with and without consult | MOUD | No MOUD |
|---|---|---|
| Consult | 1,278 (51%)*** | 1,211 (49%) |
| No consult | 2,859 (14%) | 17,739 (86%) |

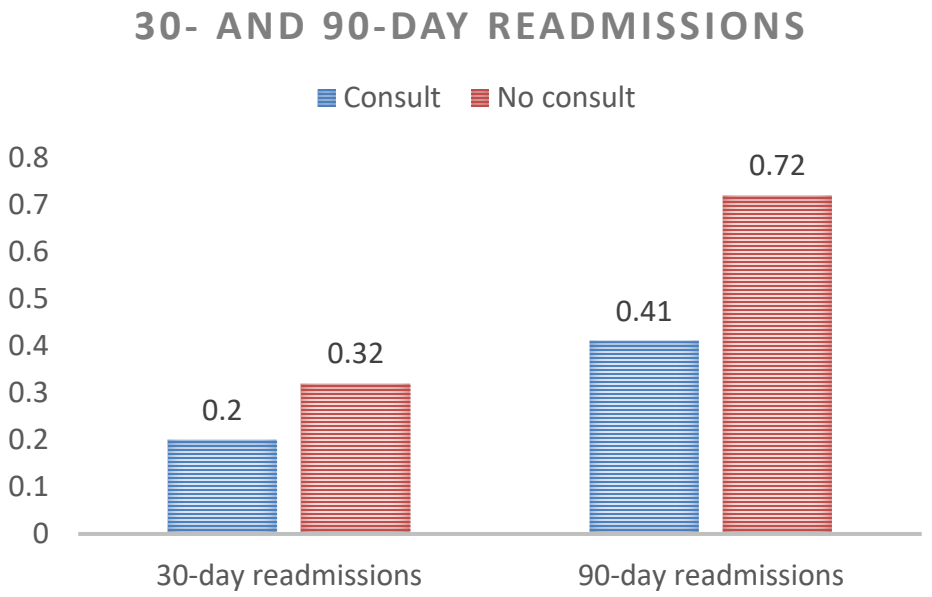
Kast et al. in preparation

# Vanderbilt experience

Reduced readmission rate after consultation.

For the 2,489 consult encounters:

- 299 “saved” readmissions in 30 days
- 772 “saved” readmissions in 90 days




| Readmission rates with and without consult | 30-day readmissions | 90-day readmissions |
|---|---|---|
| Consult | 0.20 (SD 0.49)*** | 0.41 (SD 0.81)*** |
| No consult | 0.32 (SD 0.63) | 0.72 (SD 1.13) |

Kast et al. in preparation

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