Substance Use Treatment and Recovery Team (START) Addiction Consultation Service (ACS) for Hospitalized People with Opioid Use Disorder: Multisite Randomized Controlled Trial (clinicaltrials.gov (NCT05086796))

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Funding, Conflict of Interest

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- Reported content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health

Conflict of Interest

- The authors have no conflicts of interest to declare

Session Agenda

SESSION OVERVIEW

START ACS RCT OVERVIEW AND FINDINGS

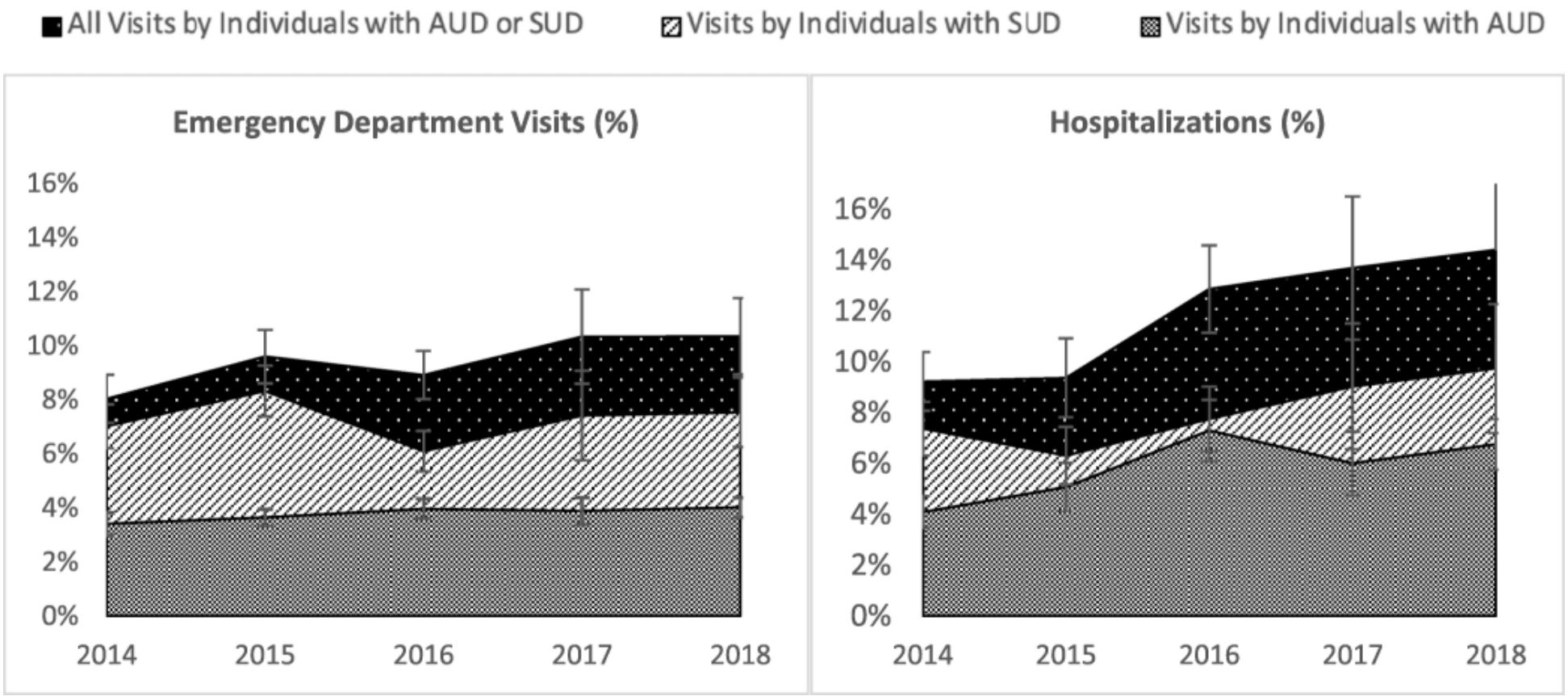
PANEL PRESENTATIONS

Q & A, GROUP DISCUSSION

WRAP-UP

Background

SUD is Concentrated in Hospitals



SUEN, L.W. *ET AL.* NATIONAL PREVALENCE OF ALCOHOL AND OTHER SUBSTANCE USE DISORDERS AMONG EMERGENCY DEPARTMENT VISITS AND HOSPITALIZATIONS: NHAMCS 2014–2018. *J GEN INTERN MED. 2022*

MOUD after ED or Inpatient visit is effective

- Cohort study using Oregon Comprehensive Opioid Risk Registry
  - 22,235 patients with an OUD-related hospital visit
  - Evaluated receipt of MOUD within 7d after OUD-related hospital visit
- 5.3% initiated MOUD within 7d
  - Pts on MOUD had lower adjusted odds of fatal or nonfatal opioid overdose at 6 months.

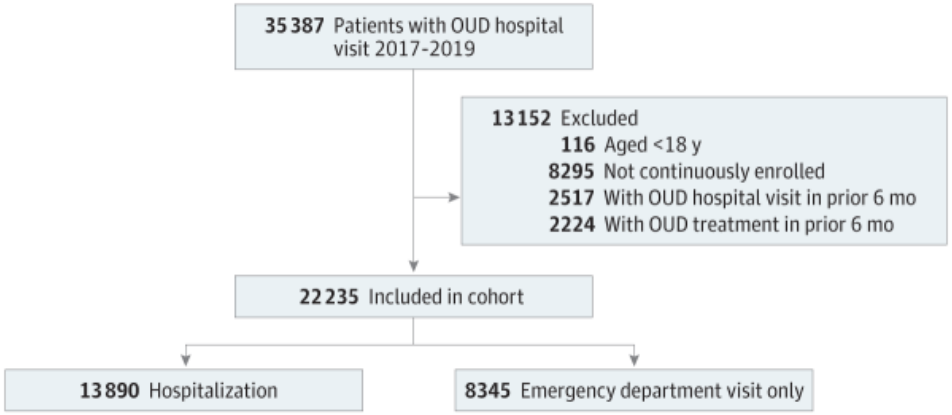


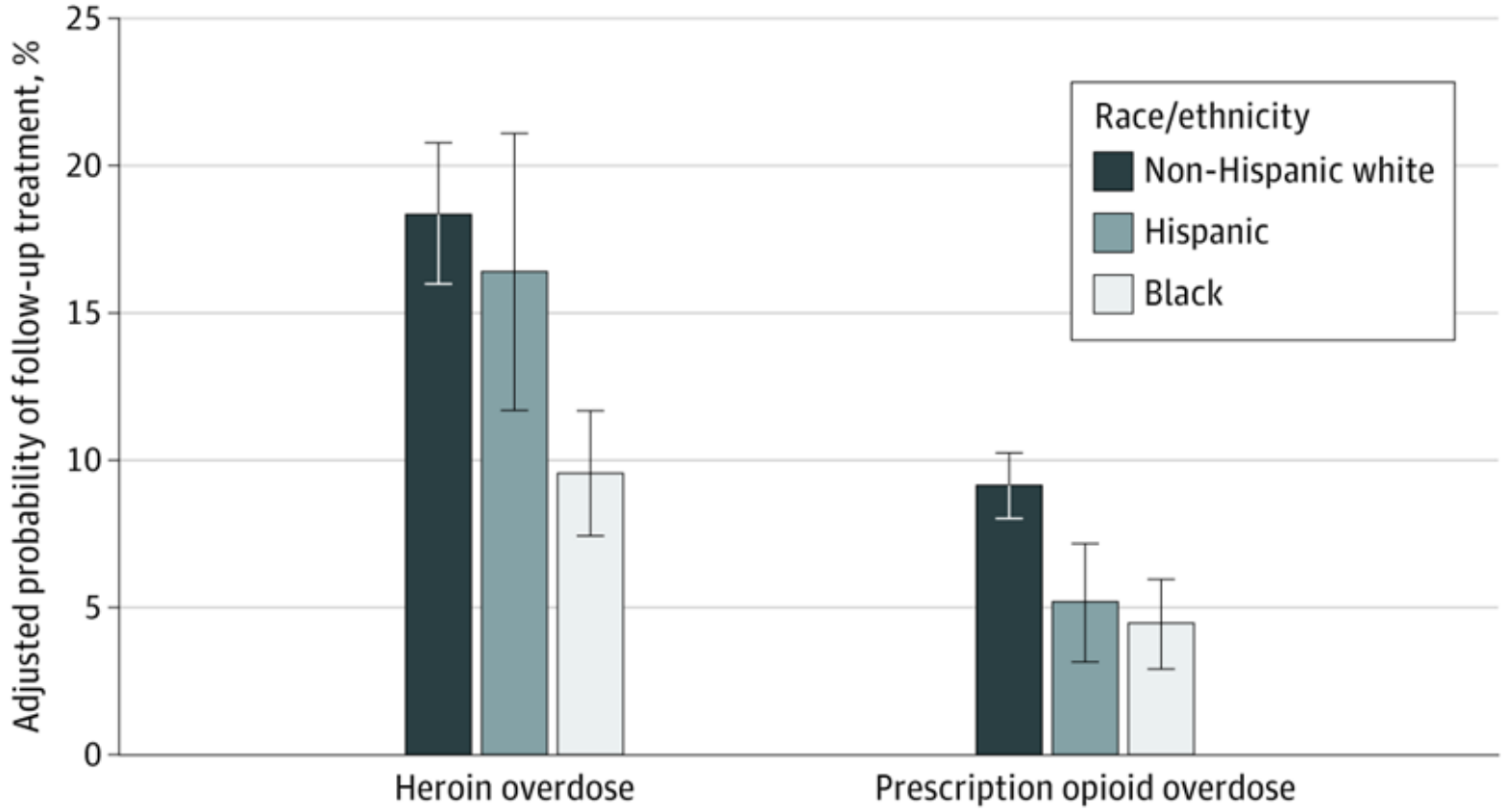
Table 3. Association of Medication for OUD 7 Days After the Index OUD Hospital Visit With Subsequent 6- and 12-Month Opioid Overdose

	Adjusted odds ratio (95% CI)	
Outcome	6 mo After index OUD event	12 mo After index OUD event
Fatal overdose	0.63 (0.15-2.66)	0.73 (0.26-2.02)
Nonfatal overdose	0.65 (0.42-1.02)	0.81 (0.59-1.11)
Fatal or nonfatal overdose		
Any	0.63 (0.41-0.97)	0.79 (0.58-1.08)
After ED visit only	0.57 (0.33-0.98)	0.85 (0.59-1.21)
After hospitalization only	0.72 (0.35-1.49)	0.59 (0.32-1.10)

Weiner SG, et al. Opioid Overdose After Medication for Opioid Use Disorder Initiation Following Hospitalization or ED Visit. *JAMA Netw Open.* 2024

However, even after an overdose, most people do not receive OUD treatment, and rates are lowest among minoritized groups

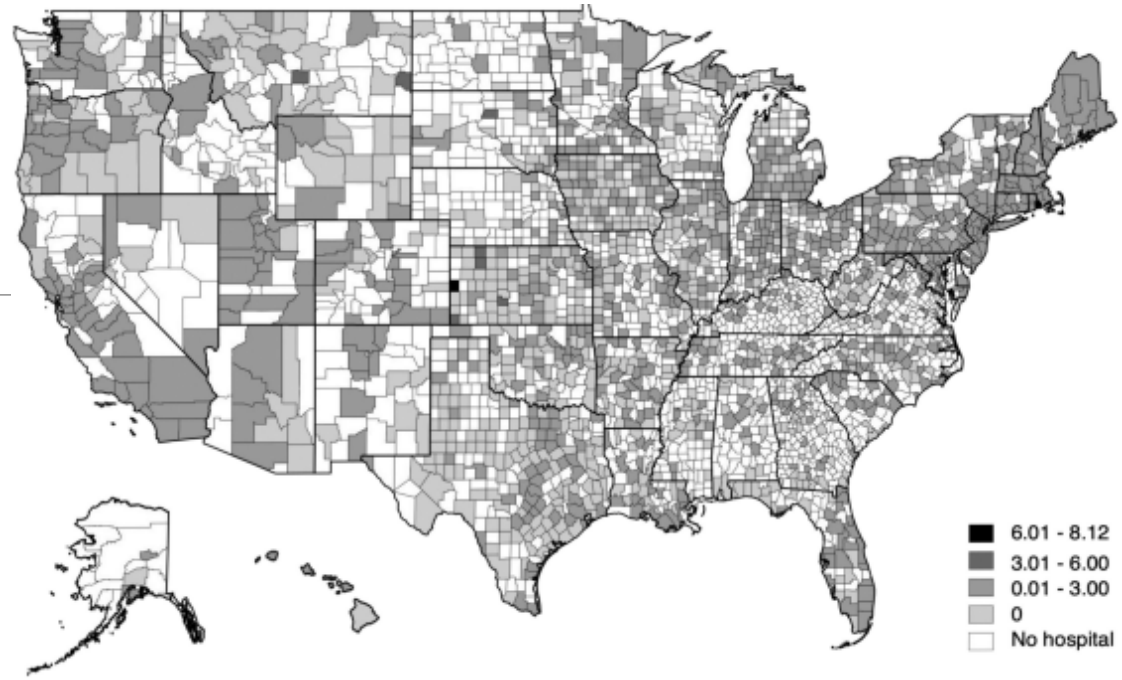
- Cohort study of national commercial insurance claims; n = 6451 pts
  - Evaluated probability of Follow-up Treatment After Opioid Overdose, by ethnicity
- 16.6% of pts obtained follow-up treatment after a nonfatal opioid overdose
  - Pts of older age, female sex, black race, and Hispanic ethnicity were less likely to obtain follow-up

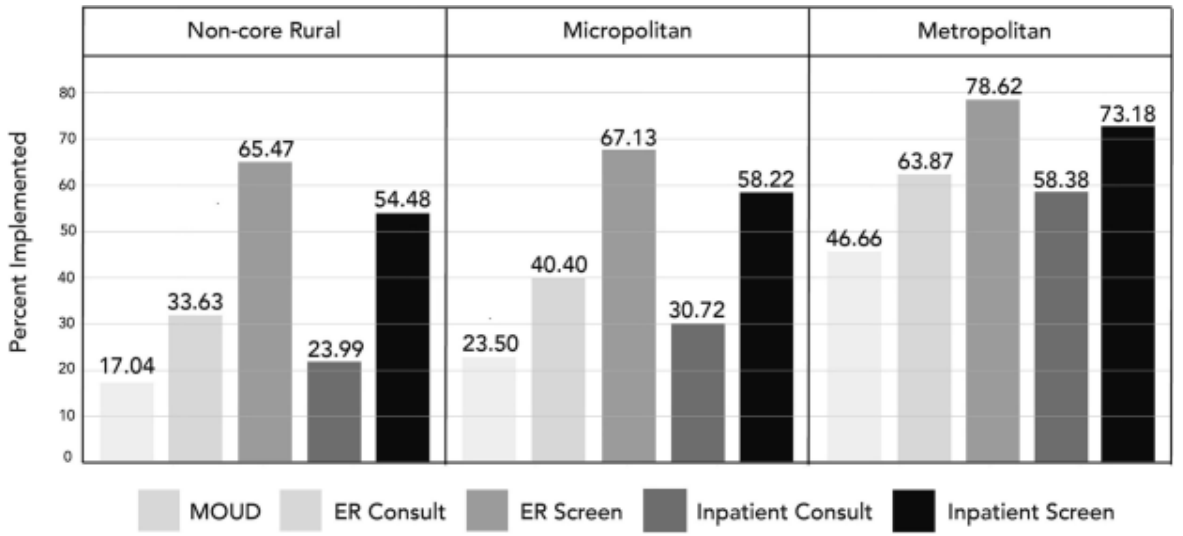


Kilaru AS, et al. Incidence of Treatment for Opioid Use Disorder Following Nonfatal Overdose in Commercially Insured Patients. *JAMA Netw*

Disparities in OUD Care are even greater in rural counties

- Cohort study of 2846 hospitals with complete SUD data from 2021 AHA Annual Hospital Survey
  - Evaluated Rural vs Urban differences in availability of SUD Screening, ACS, and/or MOUD services
- Rural hospitals and hospitals in South had significantly lower odds of having MOUD or ACS services
  - Lack of regional addiction svcs compounds both staffing challenges and f/u options
  - Financial resourcing harder for non-urban hospitals





Franz, et al. Rural-urban disparities in the availability of hospital-based screening, medications for opioid use disorder, and addiction consult services. J Subst Use Addict Treat. 2024

JAMA Network Open

Original Investigation | Substance Use and Addiction

Physician Reluctance to Intervene in Addiction
A Systematic Review

Melinda Campopiano von Klimo, MD; Laura Nolan, BA; Michelle Corbin, MBA; Lisa Farinelli, PhD, MBA, RN, CCRP, OHCC; Jarratt D. Pytell, MD; Caty Simon; Stephanie T. Weiss, MD, PhD; Wilson M. Compton, MD, MPE

Design:

- **Systematic review evaluating reasons for physician reluctance to address SUD**
- **183 studies reported data collected from 66,732 physicians**

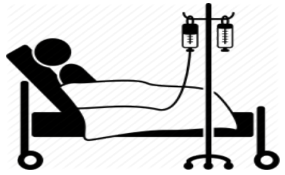
Barriers

- **Institutional support (81.2%)**
  - lack of support staff; perceptions of regulatory and liability risk; reimbursement and costs, even when amount reimbursed was not known
- **Skill (73.9%)**
  - lack of experience observing or delivering SUD services
- **Cognitive capacity (73.5%)**
  - too busy; too time consuming; addressing SUD diverts from other importance tasks
- **Knowledge (71.9%)**
  - Familiarity with evidence for SUD as medical conditions

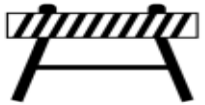
What are the consequences?

- Even after hospitalization, few patients get the services they need, and many feel stigmatized
  - Perceived stigma, barriers, and facilitators experienced by members of the opioid use disorder community when seeking healthcare. McCurry M, et al. JNS. 2022
- LOS often too short or too long. AMA rates are high. Readmission rates are high
  - Hospitalization outcomes of people who use drugs. Merchant E, et al. JSAT. 2020
- Post-hospitalization morbidity and mortality is high
  - 7.8% mortality within 12mo
  - Causes of Death in the 12 Months After Hospital Discharge Among Patients With OUD. King C, et al. J Addict Med. 2022
- Attributable medical costs continue to surge
  - $13 billion in 2017
  - Assessment of Annual Cost of SUD in US Hospitals. Peterson C, et al. JAMA Open. 2021
- Clinician moral injury contributes to burnout
  - "We've Learned It's a Medical Illness, Not a Moral Choice": Qualitative Study of the Effects of a Multicomponent Addiction Intervention on Hospital Providers' Attitudes and Experiences. Englander H, et al. J Hosp Med. 2018

Why does OUD go untreated in the inpatient setting?



OUD-related Hospitalization



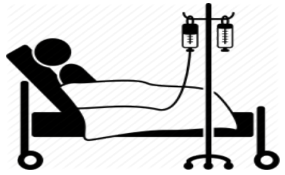
Service Delivery Barriers

- Medical team lack of knowledge, training, time
- Poor care transitions
- Stigma

Poor Patient Outcomes

- No medications for opioid use disorder (MOUD)
- Poor linkage to aftercare
- Worse health outcomes

We developed the Substance Use Treatment and Recovery Team (START) to address barriers



OUD-related Hospitalization

START

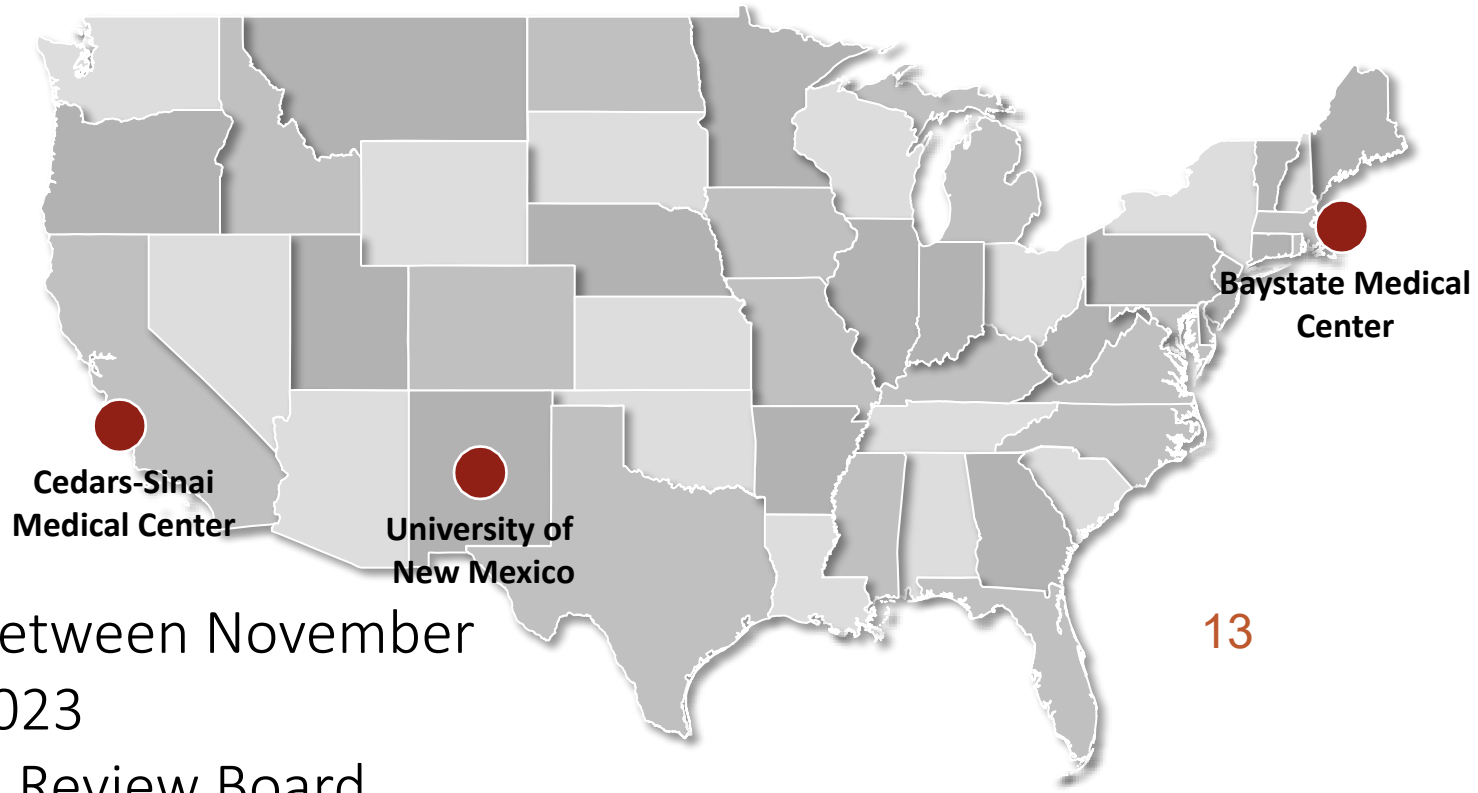
Addiction Medicine Specialist + Care Manager

- Motivational interviewing
- Addiction-focused discharge planning
- Planned follow-up

Improved Patient Outcomes

- Medications for opioid use disorder (MOUD)
- Linkage to aftercare
- Improved health outcomes

We conducted a pragmatic, randomized controlled trial to compare START to usual care at 3 U.S. hospitals



The study took place between November 2021 and December 2023

The CSMC Institutional Review Board (IRB) served as the single-site IRB

Methods

Design

Three-site parallel assignment randomized controlled trial

- Patients randomized to START versus Usual Care

Primary Outcomes

- Pre-discharge MOUD Initiation: Proportion of patients initiating MOUD (buprenorphine, methadone, or naltrexone) during hospitalization (EMR data)
- Post-discharge MOUD care: Proportion of patients successfully linking to OUD treatment (MOUD, counseling, detoxification, inpatient or outpatient treatment) within 30 days after discharge (Patient self-report)

Eligibility

Inclusion

Current inpatient at one of the three hospitals

18 or older

Probable OUD diagnosis

English or Spanish as a primary language

Life expectancy of > than 6 months (i.e., not in hospice)

Able to provide informed consent

Exclusion

Participants receiving MOUD during current hospitalization

Procedures

Recruitment

- Participants identified using daily electronic medical record (EMR) report or physician referral

Consent

Baseline Interview ($50 incentive)

1:1 Randomization in REDCap

- START versus Usual Care
- Stratified by site and prior MOUD exposure

1-month Post-discharge Telephone Interview ($50 incentive)

Analysis

Baseline Characteristics

- Summarized with descriptive statistics

Primary Outcomes

- Fit multivariable Poisson regression models with robust standard errors
- Report risk ratios and Bonferroni-adjusted 97.5% Wald confidence intervals for each primary outcome

Covariates

- Intervention arm, prior MOUD exposure, site, age, race, ethnicity, insurance, housing, hospital length of stay

Results

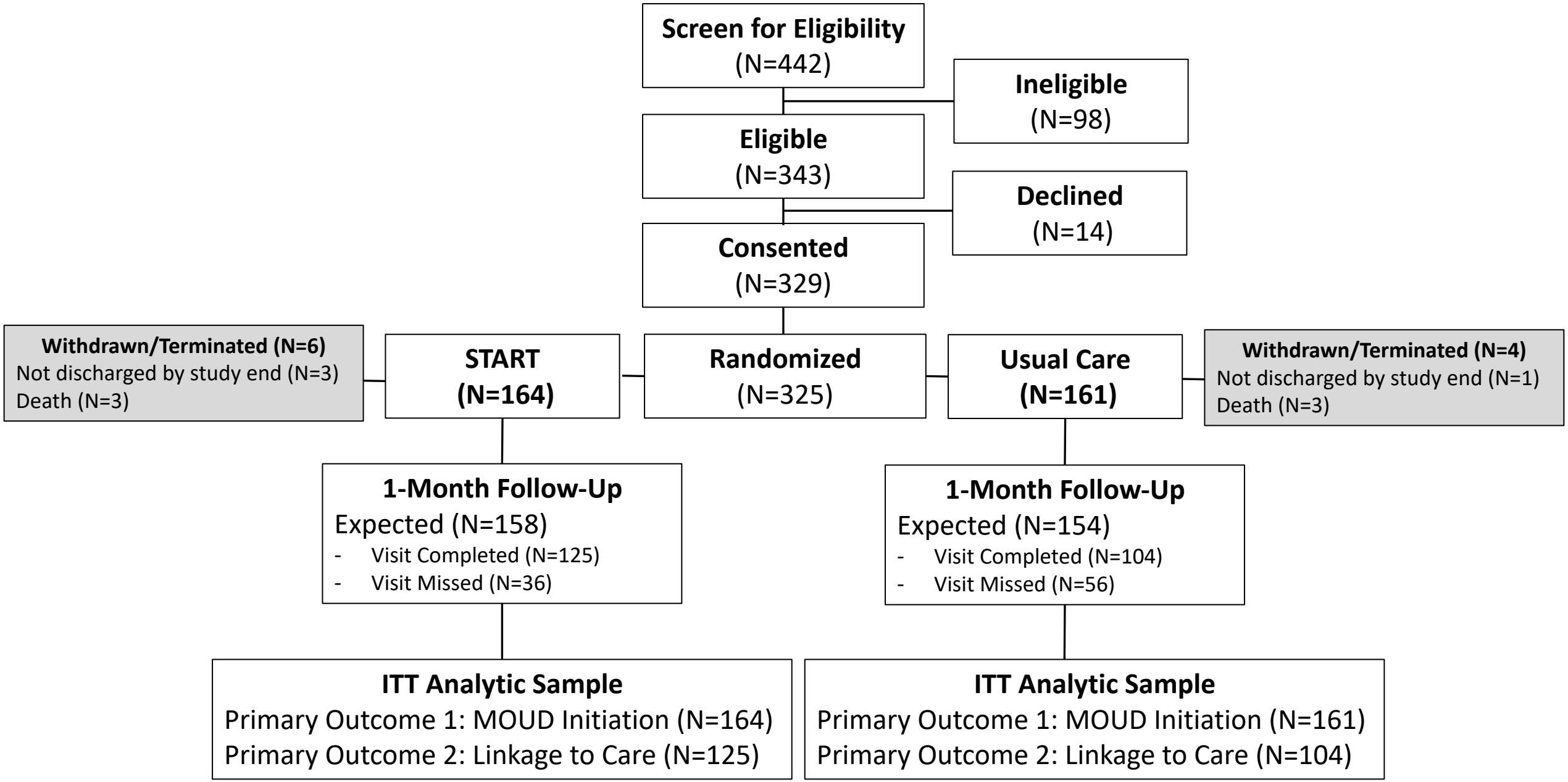
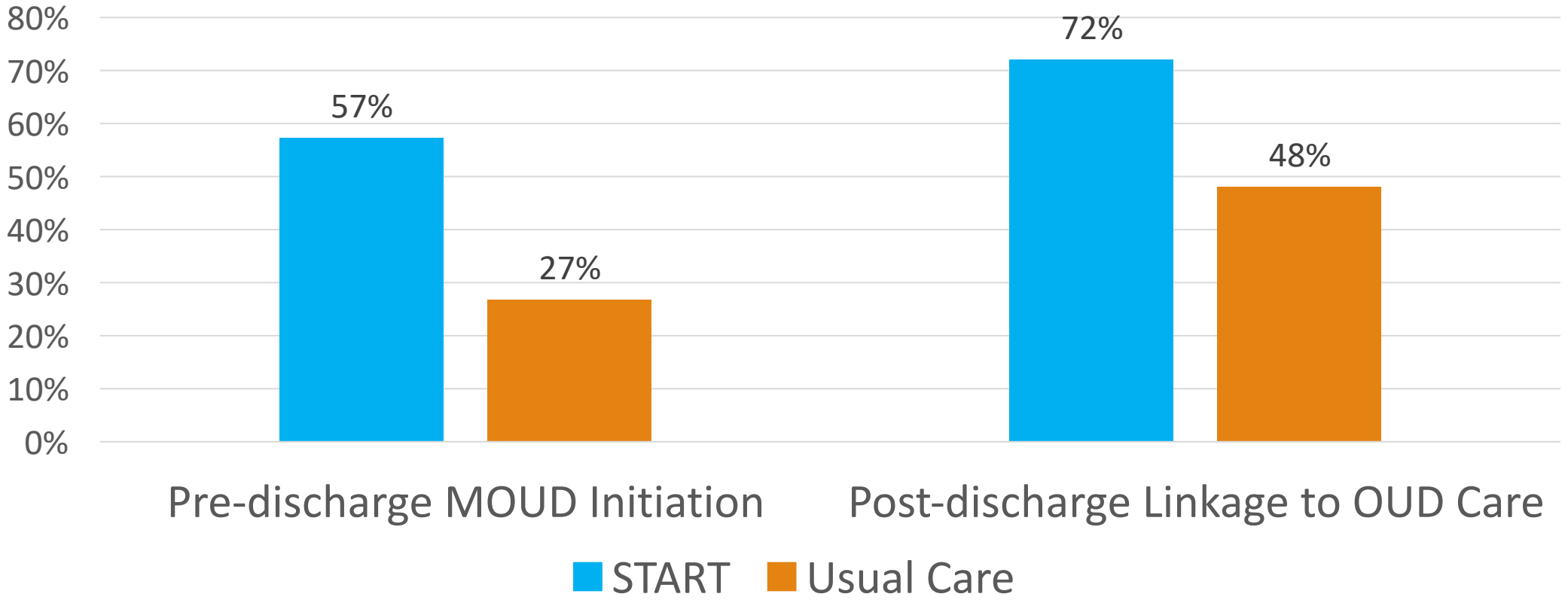


Figure 1: CONSORT Diagram

Table 1: Demographic Characteristics of Study Participants at Baseline

	Overall (N=325)	START (N=164)	Usual Care (N=161)
Age, Median (Q1, Q3)	41 (32, 50)	41.5 (34, 50)	40 (31, 51)
Biological Sex at Birth, N (%)			
Male	213 (66%)	100 (61%)	113 (70%)
Hispanic/Latinx Ethnicity, N (%)	156 (48%)	81 (49%)	75 (47%)
Race, N (%)			
White	125 (39%)	66 (40%)	59 (37%)
American Indian/Alaska Native	28 (9%)	12 (7%)	16 (10%)
Black	21 (7%)	9 (6%)	12 (8%)
Asian/Pacific Islander	3 (1%)	2 (1%)	1 (1%)
More than one race	23 (7%)	10 (6%)	13 (8%)
Other race	125 (39%)	65 (40%)	60 (37%)
Housing Status, N (%)			
Unhoused in Past Year	175 (54%)	87 (53%)	88 (55%)

Primary RCT Outcomes



MOUD Initiation: aRR=2.10, 97.5% CI: (1.51, 2.91)

Linkage: aRR=1.49, 97.5% CI: (1.15, 1.93)

Pre-discharge Type of MOUD Received

	Overall (N=325)	START (N=164)	Usual Care (N=161)
Any MOUD (N, %)	137 (42 %)	94 (57%)	43 (27%)
MOUD Type (among those who received MOUD)			
Methadone only	83 (60%)	57 (61%)	26 (60%)
Buprenorphine only	47 (34%)	31 (33%)	16 (37%)
Methadone & Buprenorphine	6 (4%)	5 (5%)	1 (2%)
Methadone & Naltrexone	1 (1%)	1 (1%)	0 (0%)

Post-discharge OUD Treatment

	Overall (N=229)	START (N=125)	Usual Care (N=104)
Any MOUD	104 (45%)	70 (56%)	34 (33%)
MOUD Type (among those who received MOUD)			
Methadone	48 (46%)	35 (50%)	13 (38%)
Buprenorphine	42 (40%)	28 (40%)	14 (41%)
Naltrexone (Injectable)	3 (3%)	2 (3%)	1 (3%)
Other	11 (11%)	5 (7%)	6 (18%)
Counselor or Case Manager	100 (44%)	62 (50%)	38 (37%)
Detox Program	22 (10%)	17 (14%)	5 (5%)
Residential Program or Halfway House	23 (10%)	15 (12%)	8 (8%)
Intensive Outpatient or Day Program	16 (7%)	7 (6%)	9 (9%)

Conclusion

START Adds Strong Evidence for ACS

START is Effective

An addiction medicine specialist – care manager team delivering a motivational and active discharge planning intervention increased pre-discharge MOUD initiation and linkage to post-discharge care for OUD.

START Adds to the Case for ACS Expansion

START adds evidence from the first parallel assignment RCT of an ACS to the growing literature on ACS to improve care for hospitalized patients with OUD.

Study Limitations

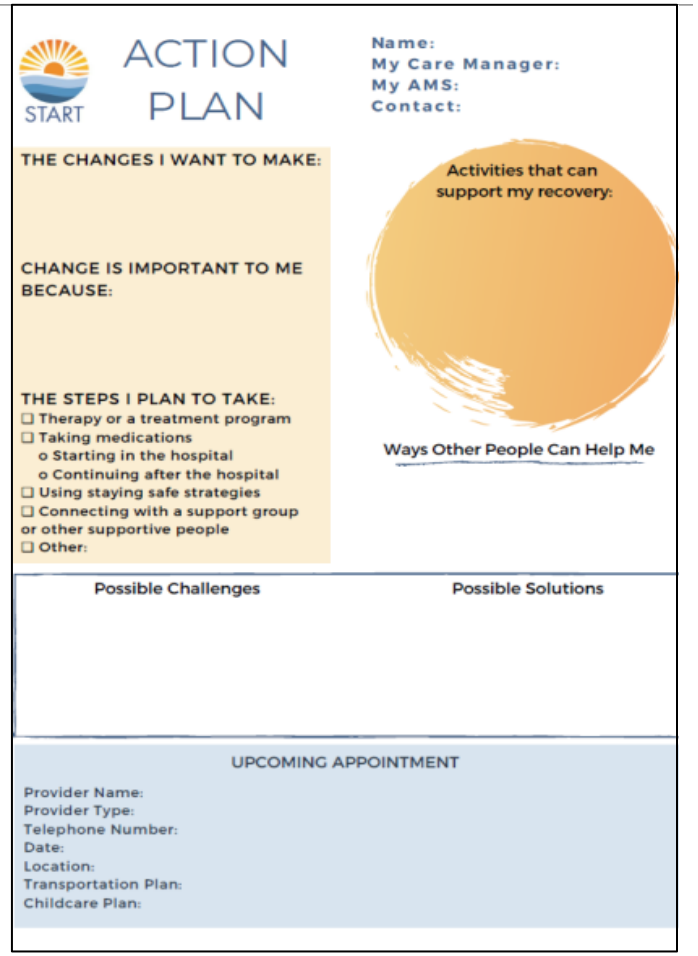
- Social desirability bias: Linkage outcomes assess through patient self-report.
- Possible limited generalizability to smaller hospitals, and those with few community treatment resources.

START INTERVENTION

KAREN OSILLA, PHD

START Intervention

- **Care Manager** (MSW, LCSW and/or at least 5 years working w OUD population)
- **Addiction Medicine Specialist** (medical provider w expertise in OUD med mgmt)
- Hospital and post-discharge planning
- Triage, engage, assess, plan, treat, communicate and coordinate
- Registry for caseload tracking
- CM conducted once weekly follow-up calls for 1 month



START

ACTION PLAN

Name:
My Care Manager:
My AMS:
Contact:

THE CHANGES I WANT TO MAKE:

CHANGE IS IMPORTANT TO ME BECAUSE:

THE STEPS I PLAN TO TAKE:
- ☐ Therapy or a treatment program
- ☐ Taking medications
  - o Starting in the hospital
  - o Continuing after the hospital
- ☐ Using staying safe strategies
- ☐ Connecting with a support group or other supportive people
- ☐ Other:

Activities that can support my recovery:

Ways Other People Can Help Me

Possible Challenges	Possible Solutions

UPCOMING APPOINTMENT

Provider Name:
Provider Type:
Telephone Number:
Date:
Location:
Transportation Plan:
Childcare Plan:

Training and Fidelity Monitoring

Training

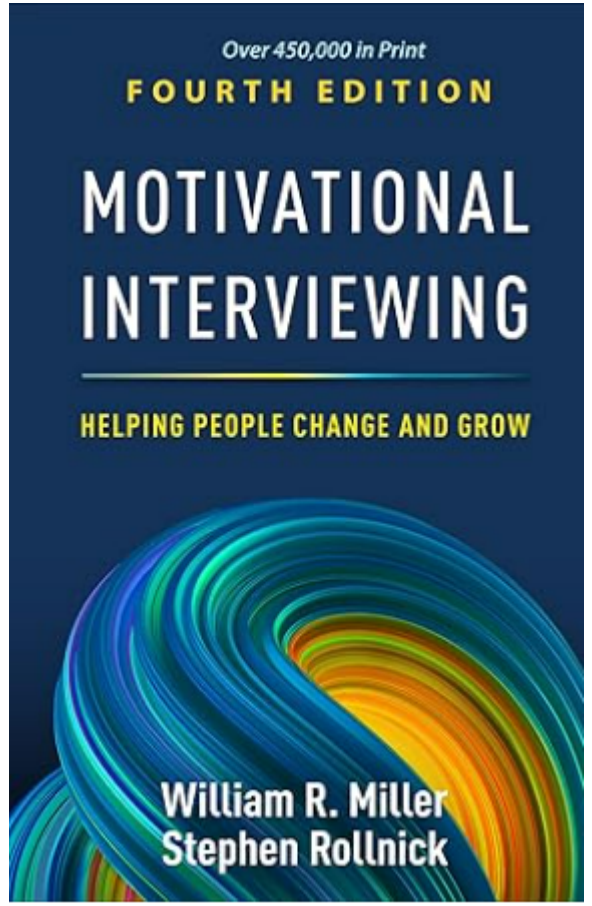
- 4-hour training and monthly follow-up meetings with CM and AMS

Fidelity Monitoring (audio recordings and registry checks)

Fidelity Component	%
MI Competency (MITI 4.2.1)	91
Patients entered into registry	99
Patients discussed between the CM and AMS	95
Patients seen at least once by AMS and CM	93
Patients received evidence-based practices	88
CM attempted follow-up call	98
CM made at least one call	61

Motivational Interviewing Pearls

1. **We are not fixers, we are helpers**
   - Focus less on persuasion and more on evoking
2. **Engage and understand their values**
   - What's in it for the patient? Don't plan prematurely.
3. **Guide the person to change talk**
   - Reinforce language towards change, don't elaborate on counter-change talk
4. **Kind words go a long way**
   - Affirm qualities and traits that are enduring
5. **Give information in a sandwich**
   - **Ask** (Is it ok if I shared…) – **offer** (info) – **ask** (how does that info fit with your experiences?)

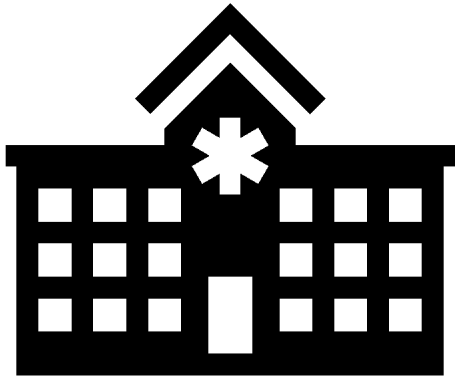


PANEL PRESENTATIONS

STARTing a Post-Acute Care Pathway for Patients on MOUD

SERGIO HUERTA, MD, FASAM

Post-Acute Rejection of Patients on MOUD



Hospital

Up to **80%**

Patients on MOUD Rejected

Post-Acute Care

Kimmel 2021
Waters 2022

Post-Acute Rejection of Patients on MOUD in New Mexico

No skilled nursing facilities (SNFs) accepted patients on MOUD in 2022

Post-Acute Barriers to MOUD Acceptance

MOUD Related Concerns

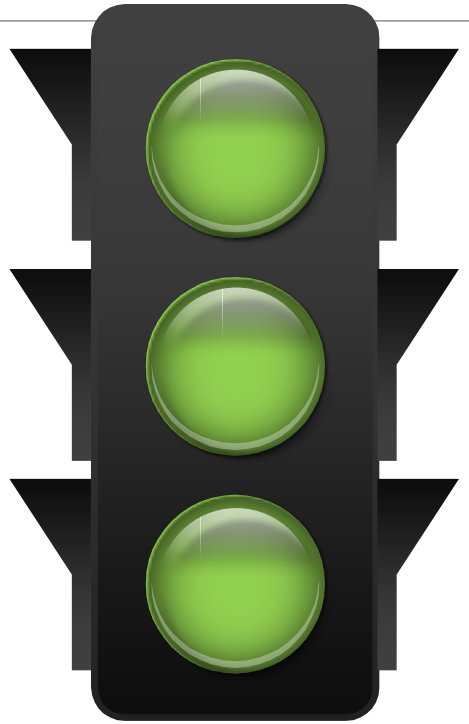
Care Coordination

Regulatory and Legal Concerns

Stigma and Discrimination

Moyo 2024
Yang 2023

Getting STARTed

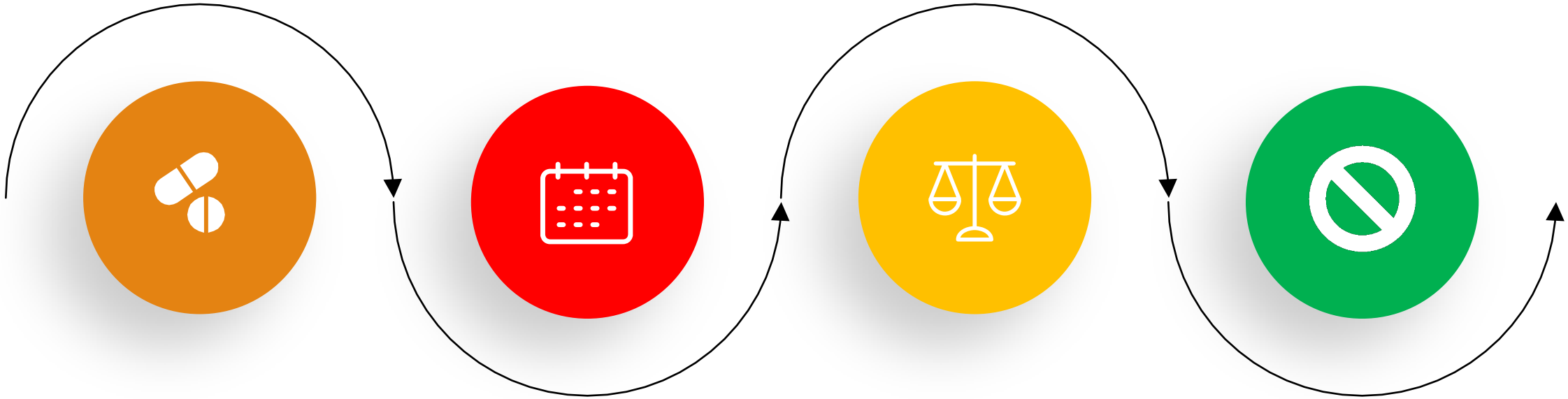


Willing SNF

Collaborative Approach

Develop a Pathway

Post-Acute Care Pathway



MOUD Optimization

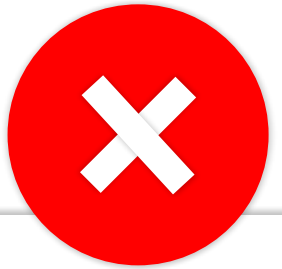
Expanded Care Coordination

Policy Development

Training and Support

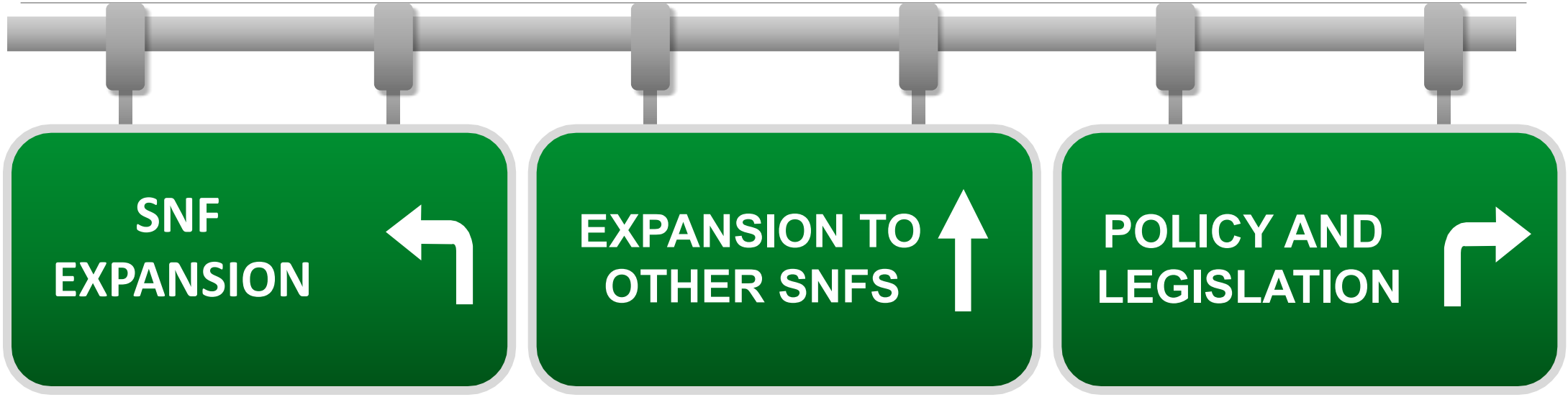
Successes and Challenges

- 100% of intervention group referred to SNF admitted (N=15)
- No reported in-facility substance use, MOUD diversion or patient directed discharges
- SNF director reported pathway patients were “some of her best patients”

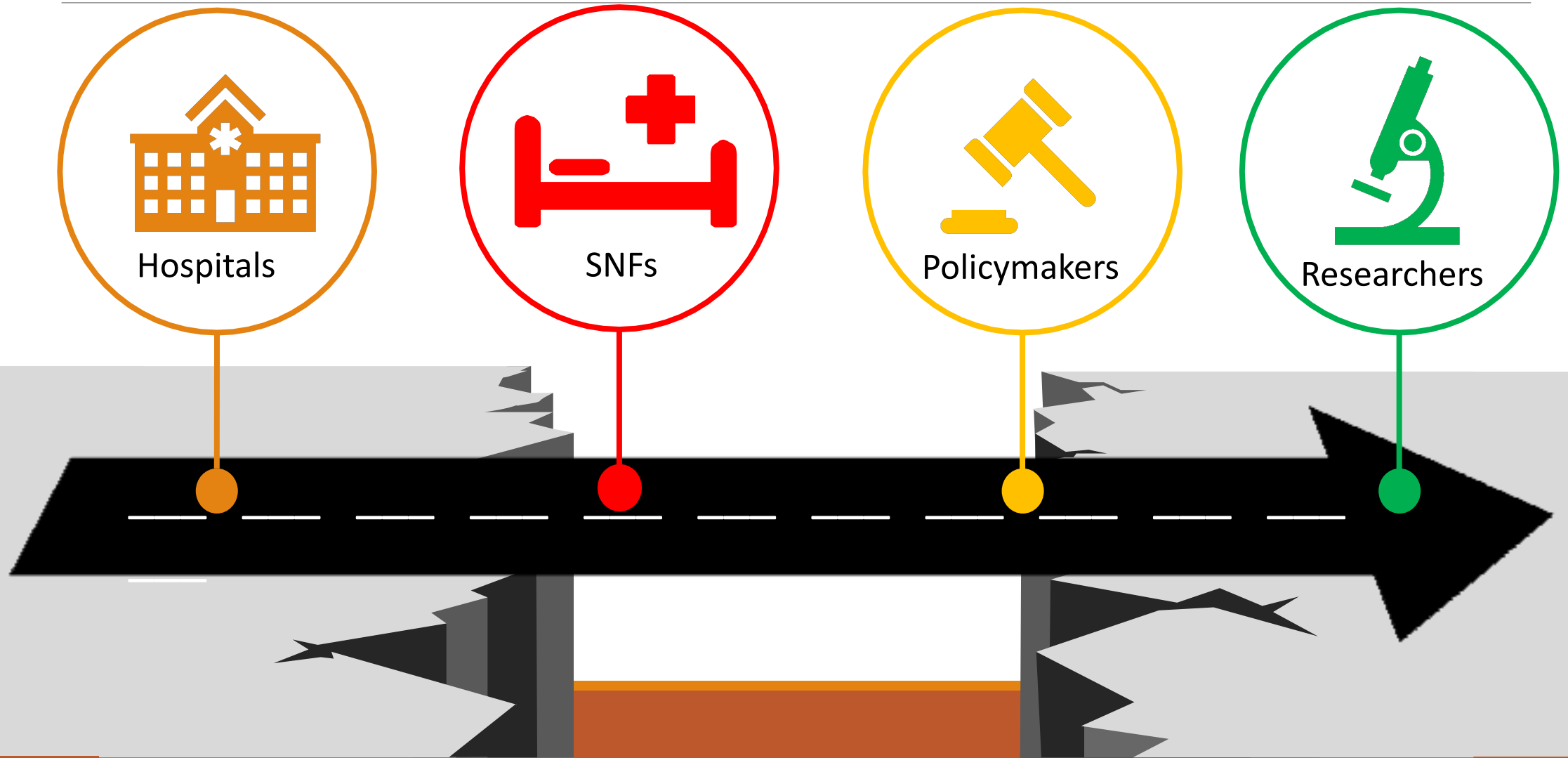


- SNF staff turnover
- Delay in methadone delivery

Future Directions



Call to Action



Conclusion

Access to evidence-based treatment should not end at hospital discharge

Reflections from Baystate Medical Center (BMC) The East Coast START Study Site

STEPHEN J. RYZEWICZ, MD, DFASAM, FACP

BMC Addiction Services Prior to START

No formal Addiction Consult Service

Little to no addiction services rendered except lists of services provided by social workers and occasional referrals for outpatient counseling

No methadone or buprenorphine were started on inpatients-ever

No formal treatment plans for acute opioid withdrawal except anti-anxiety meds and maybe symptomatic treatments

No referrals were made to outpatient methadone clinics or buprenorphine providers-ever

BMC Addiction Services with Creation of Formal ACS PRIOR to START Study

One full-time Addiction PA

One full-time Medical Director, 0.5 FTE clinically deployed

One full-time Masters Level Social Worker as Coordinator

No formal protocols initially

Used established recommendations such as California Bridge, ASAM recommendations and others

Began new starts for both methadone and buprenorphine regularly

Initiated by the Department of Psychiatry/Behavioral Health and required collaboration from Division of Hospital Medicine for a joint appointment for the Addiction Medicine Physician

Initially funded by the Department of Psychiatry of BMC, supplemented by a State of Massachusetts Department of Public Health grant to support some of the MSWs costs

BMC Addiction Services with Creation of Formal ACS PRIOR to START Study

Regularly referred patients to outpatient methadone clinics

Regularly referred patients to new buprenorphine providers in the community

Helped guide inpatient management of acute opioid withdrawal with symptom focused medications, and also methadone and buprenorphine

Helped guide assessment and management of multi-substance withdrawal or intoxication states

Started building relationships with local outpatient treatment providers

Provided consultation services for other substance classes, especially alcohol

BMC Addiction Services with Co-Existing Formal ACS AFTER START Study Enrollment Began

Formal, trained Care Manager added to the personnel as part of the study

Care Manager and Addiction Medicine Specialist (AMS) followed the START manualized protocol for each patient

START markedly enhanced the quality and depth of the screening process for SUDs

START provided more in-depth opportunity for patients to ask questions and better understand what their options were for treatment

Patients in START were more amenable to discussions with the AMS about OUD as a disease, treatment pros and cons and especially medication treatment options

BMC Addiction Services with Co-Existing Formal Addiction Consult Service AFTER START Study Enrollment Began

Patients who were not eligible for enrollment in START continued to have “usual care” with the social worker and the PA but did not have contact with the START AMS-care manager team or receive the START intervention

Patients seemed more engaged after having the more protocol-ized approach

Being part of a study seemed to motivate some to take it more seriously

Having the element of follow up phone call check ins after discharge seemed to be very much welcomed by patients. Much positive feedback about the overall experience

BMC Addiction Services with Co-Existing Formal Addiction Consult Service AFTER START Study Enrollment Began

Hospital staff, including nurses, referring providers on hospitalist services and residents and fellows were very excited by the study and the services now available to them to help take better care of their inpatients

The study helped contribute to the learning by other provider teams about options they had at their disposal to better manage initial assessments of OUD patients and acute opioid withdrawal syndrome

Only challenges were in identifying and then sorting out which consult requests and patients would be eligible for the study

BMC Addiction Services After the START Study Ended

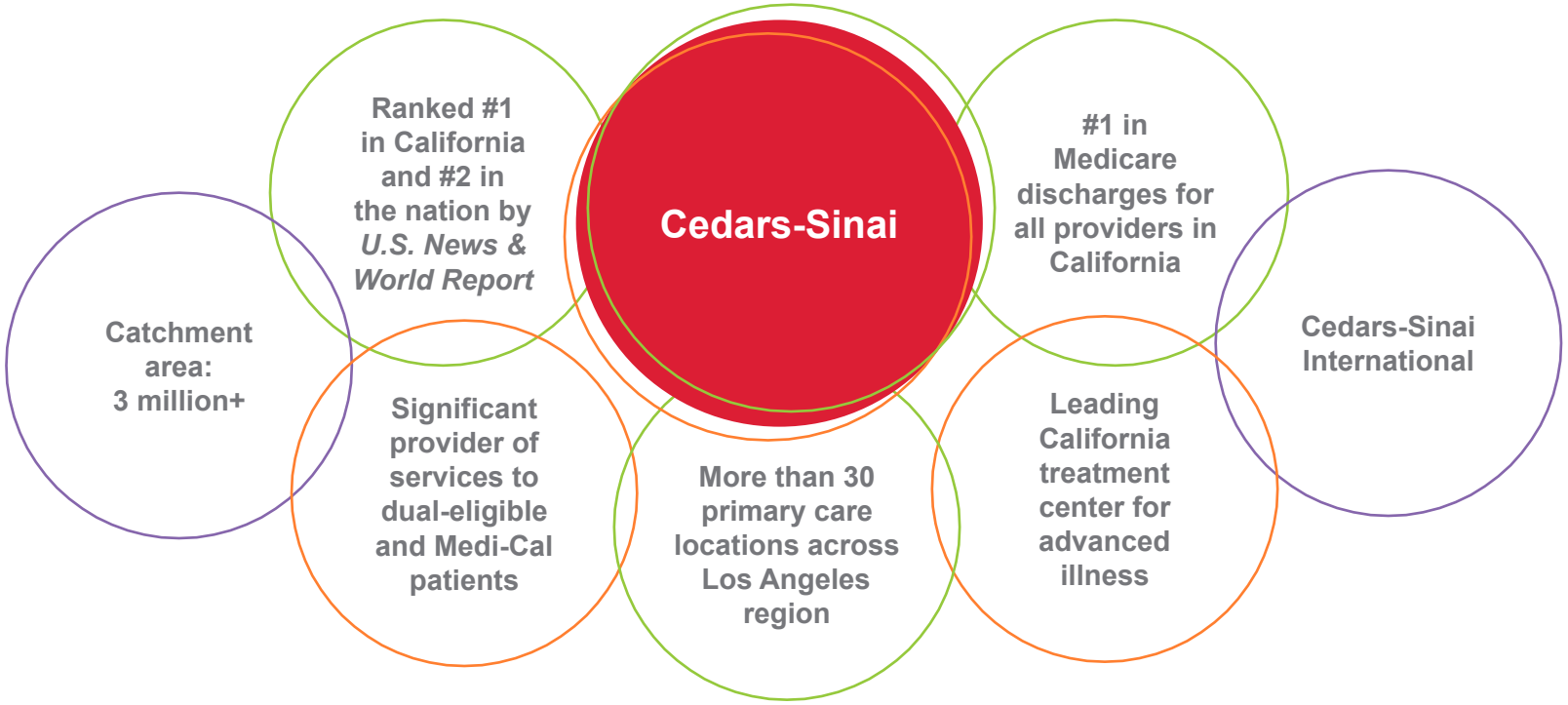
Continued robust and active Addiction Consult Service

Referring Services learned how to approach some of these patients better and make good referrals, while beginning in hospital treatment while waiting for the availability of the addiction team.

Challenges have including lack of resources, and lack of funding for the follow up contacts, phone calls to help motivate patients' going to scheduled outpatient appointments for ongoing care

In our area of Massachusetts, we still have major problems with Nursing Homes and Rehab centers declining taking patients with SUDs who need several weeks of physical rehab or IV antibiotics for infections. Efforts ongoing to change this (lectures and education for staff of rehabs and maybe legal action at some point)

Cedars-Sinai
Lessons Learned Implementing and Sustaining the START ACS

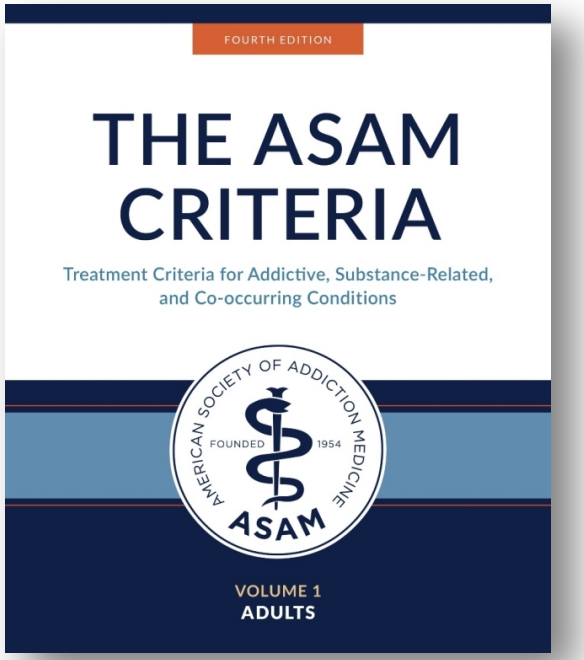


Similarities and differences between Psychiatry & Internal Medicine ACS

	Psychiatry-Led ACS	**Internal Medicine-Led ACS**
Focus	Withdrawal management, SUD, and psychiatric comorbidities	Medical stabilization, withdrawal management, SUD and acute medical complications
Approach to Addiction Treatment	Psychotherapy, behavioral interventions, medication treatments, and harm reduction	Medication treatments, management of medical complications, and harm reduction
Scope of Treatment	Focus on psychiatric disorders (e.g., depression, anxiety, PTSD) and their role in addiction	Managing withdrawal symptoms, infections (e.g., endocarditis, osteomyelitis), and liver disease (e.g., cirrhosis)

Challenges sustaining the model

- ✓ Departmental resource constraints
- ✓ Service based models (i.e., START) highly effective, but require sustained support
- ✓ Practice based models effective but slow to implement
- ✓ Realizing full value requires continuum of services
- ✓ ROI may be indirect


FOURTH EDITION
THE ASAM CRITERIA
Treatment Criteria for Addictive, Substance-Related, and Co-occurring Conditions
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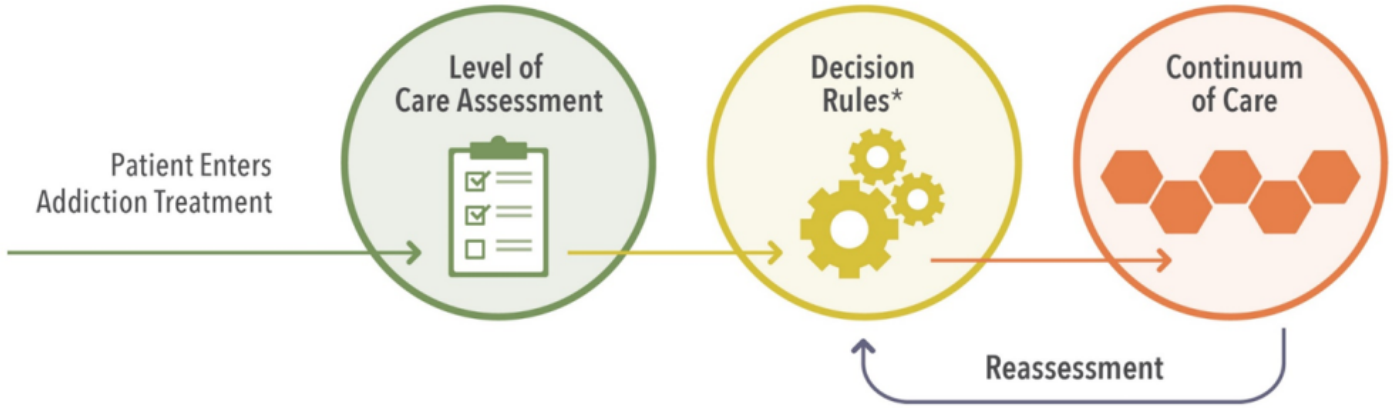
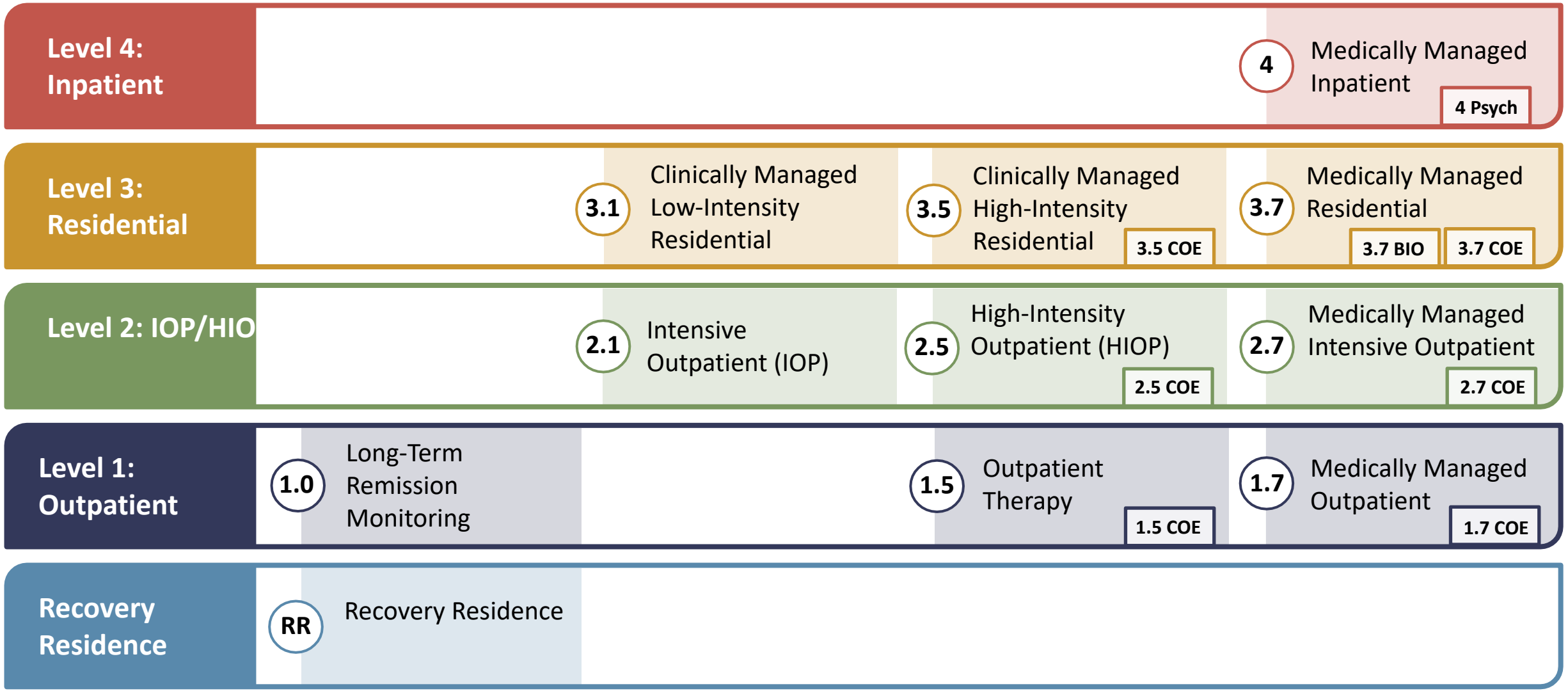
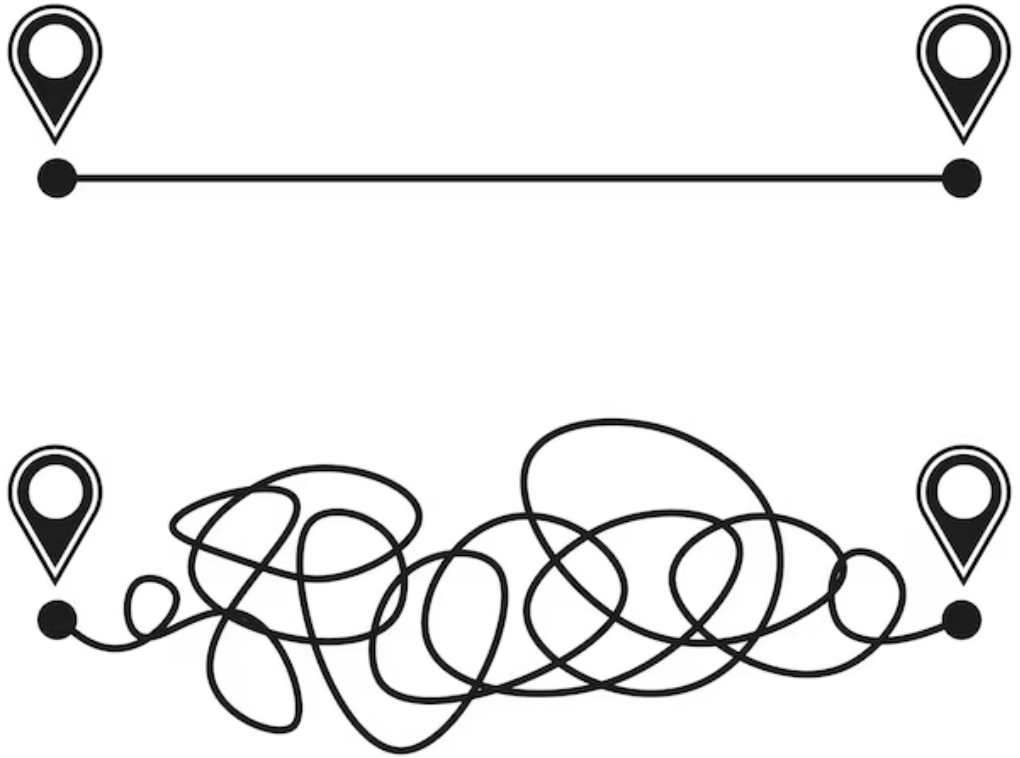
FOUNDED 1954
ASAM
VOLUME 1
ADULTS


Patient Enters Addiction Treatment
Level of Care Assessment
Decision Rules*
Continuum of Care
Reassessment

The ASAM Criteria Continuum of Care for Adult Addiction Treatment



Reality



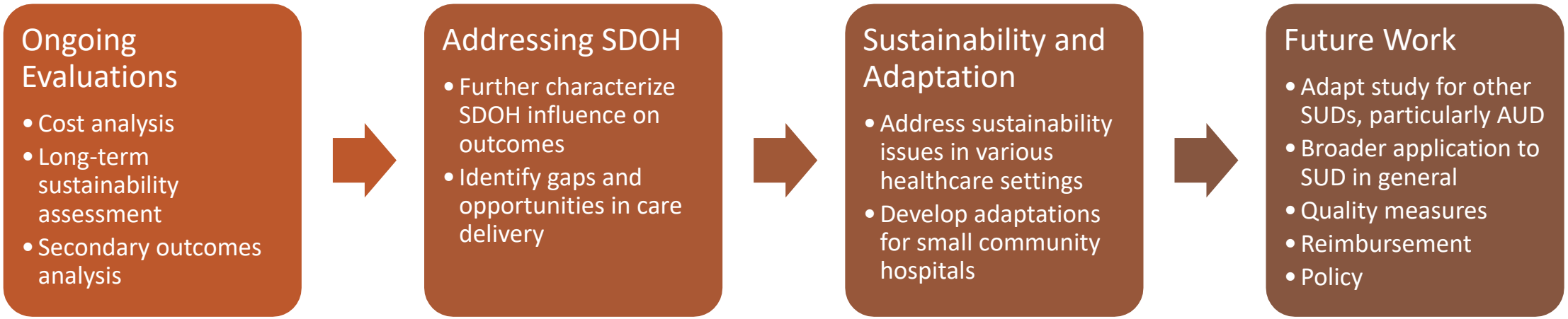
Take-Aways

- **The START, an addiction consultation service model, increases delivery of effective OUD care for a marginalized population.**
  - Cements a growing body of literature establishing effectiveness

- **Hospitalization presents a window of opportunity.**
  - Enhanced “brief interventions” are impactful
  - May generalize to other SUD, and other chronic mental health conditions

- **Challenges**
  - Sustainment requires persistent commitment, staffing, financing mechanism
  - Realizing full value requires both a continuum of care and capacity for integration

Next steps


Ongoing Evaluations
• Cost analysis
• Long-term sustainability assessment
• Secondary outcomes analysis
Addressing SDOH
• Further characterize SDOH influence on outcomes
• Identify gaps and opportunities in care delivery
Sustainability and Adaptation
• Address sustainability issues in various healthcare settings
• Develop adaptations for small community hospitals
Future Work
• Adapt study for other SUDs, particularly AUD
• Broader application to SUD in general
• Quality measures
• Reimbursement
• Policy

Q & A, Group Discussion

TEAM

START Main Outcomes

START ACS Manual

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