ROI in SUD Treatment

Andrew Suchocki, MD, MPH
Stacie Andoniadis, Care Oregon
Objectives

• DISCLOSURE:
  • Stacie Andoniadis and Andrew Suchocki are NOT health economists
  • Pat Luedtke, Health Officer for Lane County, Oregon can not make it today and Andrew Suchocki will be discussing his slides. While they are compelling, Andrew’s mastery of the project is less. Empathy and understanding are requested, thank you.
• Discuss literature foundation on ROI for treating addiction w/ MAT
• Provide an overview of the FUSE program in Eugene, OR
• Review a Medicaid CCO’s population and data driven approach to patients with ID’d OUD
Funny Cartoons about Economists

https://www.quora.com/What-are-some-funny-cartoons-about-economics
Cost–Benefit Analysis of Drug Treatment Services: Literature Review

• This review by Cartwright (2000) looked at ROI analyses when looking globally at societal costs (vs health care utilization). This was not claims based and the studies did have numerous limitations given the inherent nature of the research.
• Economic analysis of drug treatment requires sophisticated conceptualization and measurement. Drug treatment services are directed to rehabilitating individual behavior, and the analysis must have a measure of change in behavior and its impact on outcomes (effectiveness).
• In the 18 cost–benefit studies reviewed
  • A persistent finding was that benefits exceed costs, even when not all benefits were not accounted for in the analysis.
  • Studies have emphasized the cost savings to society from the reduction in external costs created by the behavioral consequences of addiction and drug use.

Cartwright Conclusions

• In 18 cost–benefit studies, a persistent finding is that the benefit–cost ratio is greater than one.
• These findings are compromised by many studies with weak research designs. However, the benefits of drug abuse treatment are so robust that it appears that the conclusion of positive economic returns to society will stand as better studies are implemented.
• Further research should contribute to narrowing the range of such estimates through standardization of the estimates and the implementation of stronger research designs.
One Example from Cartwright review

- Over 40 years ago, Leslie, et al evaluated a hypothetical strategy in New York City where:
  - The intervention was methadone, detox, and housing.
  - The eventual result was the re-allocation of resources within the treatment system.
  - Benefits defined as social costs averted a year of drug use
  - Effectiveness estimates were not evidence based

<table>
<thead>
<tr>
<th>Program type</th>
<th>Cost ($)</th>
<th>Benefits ($)</th>
<th>Benefit–cost ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Detoxification</td>
<td>86</td>
<td>1764</td>
<td>20.5</td>
</tr>
<tr>
<td>Antagonists</td>
<td>5000</td>
<td>95970</td>
<td>19.2</td>
</tr>
<tr>
<td>Methadone</td>
<td>9100</td>
<td>71978</td>
<td>7.9</td>
</tr>
<tr>
<td>Odyssey House</td>
<td>12500</td>
<td>81437</td>
<td>6.5</td>
</tr>
<tr>
<td>Increased legal enforcement</td>
<td>10000</td>
<td>34275</td>
<td>3.4</td>
</tr>
<tr>
<td>Phoenix House</td>
<td>17305</td>
<td>52783</td>
<td>3.1</td>
</tr>
<tr>
<td>Heroin maintenance</td>
<td>18000</td>
<td>50590</td>
<td>2.8</td>
</tr>
<tr>
<td>State Narcotic Addiction</td>
<td>16000</td>
<td>44558</td>
<td>2.8</td>
</tr>
<tr>
<td>Control Commission</td>
<td>55000</td>
<td>93502</td>
<td>1.7</td>
</tr>
<tr>
<td>Heroin legalization</td>
<td>35000</td>
<td>44146</td>
<td>1.3</td>
</tr>
</tbody>
</table>

Managed Care Literature: Cost and Utilization Outcomes for OUD Tx

- **Purpose:** To evaluate the healthcare costs associated with treatment of opioid-dependence disorder with medications versus no medication, and with the 4 agents approved by the US Food and Drug Administration (FDA) via retrospective claims analysis
- **Methods—large health plan ID’d OUD pts, included all pharmacy and medical claims**
  - 13,316 pts w/ OUD w/o treatment (defined as NTX-XR, NTX, buprenorphine, or methadone)
  - 10,513 pts w/ OUD with treatment (as above)
- **Outcomes investigated**
  - 6-month persistence
  - Utilization
  - Paid claims for OUD meds, detox/rehab, inpatient admissions (related or unrelated), outpatient services, and total cost

Cost and Utilization Outcomes for OUD Tx

• **Conclusions:**
  • Medication cohort had:
    • Increased: medication costs
    • Decreased: total cost of care (including inpatient and outpatient) by 29%
  • Differences based on type of medication:
    • Extended release naltrexone patients had fewer hospitalizations than oral OUD medications
    • Total cost of care was 49% lower for buprenorphine and oral/XR-naltrexone versus methadone
• The MAT cohort had significantly fewer:
  • Admissions for detoxification and/or rehabilitation
  • Opioid-related inpatient medical care
  • Non–opioid-related inpatient medical care
• XR-Naltrexone:
  • Compared to oral OUD meds, keeps patients out of the hospital more for all indications
  • Even with the increased medication cost, this still was cost effective
Proving Benefit - Issues and Summary

- The cost of XR naltrexone was more than 10x that of methadone, however
  - Total healthcare costs associated with methadone were nearly double those of XR-NTX. That being said, methadone **does** have a role in OUD
  - These findings suggest that stand-alone budgeting based on pharmacy costs (carving out pharmacy benefits) doesn’t allow one to capture cost savings effectively
- When looking at true ROI for treating addictions as a chronic disease, the data is compelling. The issue arises when different pools of money are involved. Even when healthcare savings exist, the highest ROI exists with housing, incarceration, and other societal costs
- In sum, the top three sources of cost benefit w/ OUD treatment are:
  - Reduction in criminal activity
  - Improved earning potential
  - Overall reduced healthcare expenditures
The Lane County (Eugene) Experience

Pinch hitting:
Andrew Suchocki, MD, MPH
Background

- FUSE=Frequent User System Engagement
  - Seeks to serve the most vulnerable to thrive with dignity vs cycle through institutions
  - Goal is to reduce impact on hospitals, jails, and the police
National FUSE Process Model

Communities spend billions of dollars on services that bounce vulnerable people between crisis services. CSH's *FUSE model* helps break that cycle while increasing housing stability and reducing multiple crisis service use.

**Data-Driven Problem-Solving**
- Cross systems data match
- Track Implementation
- Measure outcomes, impact and cost effectiveness

**Policy and Systems Reform**
- Convene multi-sector working group
- Troubleshoot housing placement and retention barriers
- Enlist policymakers to bring FUSE to scale

**Targeted Housing and Services**
- Create supportive housing, develop recruitment process
- Recruit and place clients into housing, stabilize with services
- Expand model and house additional clients

[csh.org/fuse](http://csh.org/fuse)
FUSE Model in Lane County

- Better outcomes
- Reduced inefficiencies
- Increased cost savings

Systems Collaboration + Stable Housing + Support Services =
Housing First Focus: Principles

• Issues that may have contributed to a household’s homelessness can best be addressed once they are housed.

• People who are homeless or on the verge of homelessness should be returned to or stabilized in permanent housing as quickly as possible and connected to resources necessary to sustain that housing.

• Housing is a right to which all are entitled - it is not a reward for clinical success or compliance.
Community Partners
Pilot
Fall 2017

- Created a FUSE Steering Committee
- Developed initial FUSE list
- Contracted with ShelterCare
- Initial evaluation

Outreach to individuals on FUSE list
Goal: House 10 frequent users
Developing the FUSE List

Lane County created a “top 100” list of persons using the following data points:

- Police Services (arrests)
- Court Services (citations)
- Psychiatric Hospital (nights)
- In-Patient Hospital (nights)
- Emergency Departments (ER visits)
- Jail Stays (intakes)
- Emergency Shelters (nights)
- Banned from Public Transportation (Yes/No)
- Banned from Social Service Agencies: drop-in centers or food pantries (Number bans)
- Banned from Emergency Shelters (Number bans)
FUSE Top 100

- 73% high health care utilizer
- 88% frequent arrests
- 52% frequent jail stays
- 30% Frequent court citations
- 78% banned from Emergency Shelter
- 29% LTD Ban

Indicators:
- Combo of 16 or more ED visits, hospitalizations, etc.
- 7 or more arrests.
- 5 or more jail intakes.
- 5 or more court citations.

Indicator of behavioral issues
FUSE Services

**Outreach**

- Assistance and payment for ID (birth certificates and Oregon State IDs)
- Mobile Front Door Assessments for the Coordinated Entry System
- Phone assistance to conduct housing search and applications
- Transportation
- Letters of introduction, assistance with housing search and housing applications
- Rental application fees, renters rehab tuition, deposits, payment for background and credit checks
- Advocacy with property managers, collections, parole officers, public defenders

**Housing**

- Develop housing stabilization plans that promote housing maintenance
- Provide case management
- Connect to other support services in the community
- Liaison with landlord
- Connect client to mainstream benefits (SSI/SSDI, OHP, SNAP, etc.)
Numbers served in Pilot

- 26 individuals enrolled in street outreach
- Of those in street outreach, 11 placed into housing
Closer look at pilot participants

• Average 7 years homeless in current episode
• Most were unsheltered
• Average VI-SPDAT score of 16 (16 is highest)
• Several impacted by mental health and substance use issues
  • 37% self-report a mental health issue
  • 12% self-report alcohol abuse
  • 14% self-report both alcohol and drug abuse
  • 29% self-report a chronic health condition
  • 23% self-report a physical disability
• High prevalence of trauma
  • Homelessness
  • Domestic violence
  • High interaction with institutions
Pilot Findings Highlights

- EPD arrests ↓ 82%
- EMC court citations ↓ 75%
- Overall healthcare costs ↓ 53%
- Emergency Department utilization ↓ 26%
Criminal Justice Findings

- **EPD Arrests**:
  - Pre: 17
  - Post: 3
  - Decrease: 82%

- **LCSO Intakes**:
  - Pre: 4
  - Post: 2
  - Decrease: 50%

- **EMC Citations**:
  - Pre: 8
  - Post: 2
  - Decrease: 75%
## Healthcare Findings

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Rx</th>
<th>ED</th>
<th>BH</th>
<th>PCP</th>
<th>IP</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before</td>
<td>2,303</td>
<td>1,288</td>
<td>513</td>
<td>448</td>
<td>196</td>
<td>$3,930</td>
</tr>
<tr>
<td>After</td>
<td>2,492</td>
<td>949</td>
<td>443</td>
<td>443</td>
<td>89</td>
<td>$1,843</td>
</tr>
<tr>
<td>% Change</td>
<td>↑ 8.2%</td>
<td>↓26%</td>
<td>↓14%</td>
<td>↓&lt;1%</td>
<td>↓55%</td>
<td>↓53%</td>
</tr>
</tbody>
</table>
Opportunities & Challenges

• Housing First Model is effective, but it is challenging to secure housing in the private market as FUSE participants often have high barriers to housing (criminal history, poor rental history)
  • Need to build more relationships with landlords to decrease the length of time to place someone into housing
• Train FUSE staff in SOAR or increase the community’s capacity around SOAR
• Limited recovery options in the community for individuals with co-occurring mental health and substance use issues
• Engaging participants in outreach takes time
• Opportunities for Medicaid billing for tenancy supports
Improving Access to Medication for Addiction

CareOregon Process to Implementing and Improving Access

Stacie Andoniadis
CareOregon
Objectives:

• Brief review of the WHY- Share finding from the HealthShare MAT Data workgroup

• Share CareOregon process for support implementation of Medication across primary care and other service systems.

• Review of upcoming Learning Collaborative and other community learning opportunities for Medication expansion.
Do We See MAT impact on medical utilization rates in the Tri-County area?

**YES!**

Findings from the MAT Data Workgroup:

- Convened by Health Share of Oregon (CCO)
- Included representatives from behavioral health plans, behavioral health providers, physical health plans, physical health providers, and public health.
- Developed categories of MAT engagement based on a combination of days in treatment and medication possession ratio.
Members in the highly engaged MAT groups have a 96% lower inpatient utilization rate than members in the no treatment group.
Members in the highly engaged MAT groups have a 51% lower ED utilization rate than members in the no treatment group.
## Cost difference by Cost Type

<table>
<thead>
<tr>
<th>Visit type</th>
<th>PMPM cost differences*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inpatient</td>
<td>-$420</td>
</tr>
<tr>
<td>Prescriptions (other than MAT)</td>
<td>-$121</td>
</tr>
<tr>
<td>Emergency dept.</td>
<td>-$44</td>
</tr>
<tr>
<td>Other costs (DME, etc.)</td>
<td>-$149</td>
</tr>
<tr>
<td>MAT (OTP and OBOT)</td>
<td>+$385</td>
</tr>
<tr>
<td>Transportation</td>
<td>+$74</td>
</tr>
<tr>
<td>Detox/Residential</td>
<td>+$42</td>
</tr>
<tr>
<td>PCP/Dental</td>
<td>+$26</td>
</tr>
<tr>
<td>BH/SUDs outpatient services</td>
<td>+$21</td>
</tr>
<tr>
<td>Labs</td>
<td>+$11</td>
</tr>
<tr>
<td>Specialty</td>
<td>+$9</td>
</tr>
<tr>
<td><strong>OVERALL Difference</strong></td>
<td><strong>-$166 PMPM</strong></td>
</tr>
</tbody>
</table>

*Between members highly engaged in MAT and members receiving no treatment*
In 2019 Health Share began tracking the % of members with an OUD diagnosis who have initiated any MAT services and those who are highly engaged (receiving MAT services for 30 or more days and possessing medication 75% or more of treatment days).

The number of buprenorphine prescribers increased by 77% between 2017 and 2019.

In 2019 Health Share began tracking the % of members with an OUD diagnosis who have initiated any MAT services and those who are highly engaged (receiving MAT services for 30 or more days and possessing medication 75% or more of treatment days).
Primary Care Buprenorphine Prescriber Trends

- Q1 2017: 49
- Q2 2017: 57
- Q3 2017: 60
- Q4 2017: 65
- Q1 2018: 70
- Q2 2018: 74
- Q3 2018: 80
- Q4 2018: 88
- Q1 2019: 93
- Q2 2019: 90
Opiate Use Disorder is a Chronic Illness

- Etiology and treatment has similarities with other conditions like diabetes
- Some patients may be predisposed to develop the condition
- Can be caused by patient behavior or as side effect of medical intervention
- Requires long-term or lifelong treatment
- If well managed, patients can continue to experience full, successful lives
- Addressing barriers to prescribing and offering education, imperative to success and increased prescribing
Focus area:
Address barriers, prejudice and anti-medication thinking

• Discriminations across settings of care
• Old thinking around addiction as a character defect or moral failing.
• Erroneous characterization of addiction as a “secondary” disease not a “primary” disease: (i.e. addiction is NOT caused by emotional or psychiatric problems).
• Failure to fully recognize addiction as a relapsing/remitting disease.
• Abstinence is focus, belief that abstinence is more effective than MAT.
• This thinking results in pressure placed on patients by law enforcement, peer recovery communities, recovery housing, child welfare.
Focus Ares: Share Benefits of MAT
Decreased Mortality

Death rates:

- General population
- Medication-assisted treatment

Standardized Mortality Ratio

From: PCSS MAT

Dupouy et al., 2017
Evans et al., 2015
Sordo et al., 2017
Focus area: Increase Treatment Retention
Buprenorphine Detox vs. Maintenance

Maintenance: 75% Abstinent at 1 year
Detox: 0% Abstinent at 1 year

HR = 58.7, p .0001

Kakko, Lancet 2003
Focus Area: Increase prescribing
Medication is Under Utilized

• In 2016
• 2 million people had a substance use disorder involving prescription pain relievers and 591,000 had a substance use disorder involving heroin
• Only a fraction of those that get treatment get MAT
  • 300,000-400,000 people on methadone in a given year
  • 40,000 on buprenorphine
  • 5-10,000 on Naltrexone
• Only 10% of the people who need MAT for OUD are receiving it.
• More than two-thirds of U.S. clinics and treatment centers still do not offer MAT medications In Portland: only TWO residential programs admit people on MAT.

• PEW trust, (Stateline, 2016)
Capacity Building Vision: Shared strategy and goals across regions

- Build capacity where there is interest and need
- Support providers, clinics and programs through
  - Workforce development
  - Consultation
  - Patient pathways
- Encourage a network of Medication access points and recovery supports
- Develop a payment structure to encourage capacity build, sustainability
A Cross Regional Strategy

- Develop targets, track key metrics, monitor progress and provide guidance.
- Support focused relationships between Primary Care and other service settings who offer MAT, with agreements around patient-sharing, care coordination, and transitions of care.
- Coordinate to offer community education events that are responsive to provider, patient, and organization needs.
- Provide targeted technical assistance to support capacity building and effective systems of care.
<table>
<thead>
<tr>
<th>Action</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Help</td>
<td>Help establish community standards for the delivery of MAT in a primary care setting</td>
</tr>
<tr>
<td>Support</td>
<td>Support teams as they build or expand sustainable, effective MAT programs</td>
</tr>
<tr>
<td>Increase</td>
<td>Increase access to MAT for appropriate patients</td>
</tr>
<tr>
<td>See</td>
<td>See an increase in the total number of patients receiving MAT in primary care</td>
</tr>
<tr>
<td>Support</td>
<td>Support referral pathways between Primary Care and Specialty Behavioral Health</td>
</tr>
</tbody>
</table>
## Community standards and ownership: In Partnership with Wheelhouse

<table>
<thead>
<tr>
<th><strong>Who are we?</strong></th>
<th>Advocates for effective, team-based systems of care to treat the chronic condition of OUD in Primary Care</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>What are we doing?</strong></td>
<td>Our task is to ensure a greater supply of MAT providers in PC to match demand, and that there are access points spread adequately around the system. Our commitment is also to pool our resources regionally, because this is a regional problem.</td>
</tr>
<tr>
<td><strong>Why are we doing what we’re doing?</strong></td>
<td>To address the opioid crisis, and the lack of access to evidence-based treatment for OUD in PC</td>
</tr>
</tbody>
</table>
| **How will we know we’re successful?** | • An increase in active MAT prescribing in PC  
• Shared understanding/community standards for provision of MAT in PC; provider teams feel set up for success  
• Increase in utilization of buprenorphine products; enhanced member outcomes; improved coordination of services |
Wheelhouse Road Map 2017-2020

2017

- Building the Foundation: Understanding the environment
- Program Design/Model development

2018

- Generating Commitment: Provider Invitational
- Resourcing the Community: Building skilled providers
- DATA Waiver Training
- LCs and Individualized TA

2019

- Network Cohesion: Creating a learning community
- Service Delivery: Provider Invitational
- Generating Commitment: Early expansion
- Network Cohesion: Building a community of providers
- Learning Collaboratives 5 & 6: MAT program expansion
- Network Connection: MAT Readiness interview with HealthShare

2020

- “No Wrong Door” to access MAT...
- Network Connection: Primary Care + Specialty Behavioral Health
- Network Connection: Network Connection
- Continuum of care development
- Continuation of growth: Working across other settings
- Environmental Assessment: Population and resource analytics
- Network Connection: Population segmentation
- Continuation of growth: Working across other settings
- “No Wrong Door” to access MAT...
Learning Collaboratives Objectives:

• **Tools to implement change**: clinic culture, policies, workflow, reduce bias and become trauma informed

• Deepen your understanding of **team based care** and role optimization

• Ability to **use data and electronic tools to drive improvements**

• Structure to **increase the number of patients served per DATA-waivered prescriber** through team-based culture and practice
Learning Collaborative Topics:

#1: Foundations for best practices, team based care, using data

#2: Trauma Informed Care and Substance Use Disorder
   • Approaches for patient segmentation, risk tolerance and other substance use
   • Inductions- office, home
   • Implementation check-list, workflows, templating patient care
   • Focused populations, including: Pregnancy, Intersection of pain/OUD/buprenorphine, culturally sensitive services

#3: Real Examples from Integrated Primary Care teams
   • Referral pathways to BHC and peers
   • Opioids and the Brain
   • DEA and 42 CFR
   • Modeling difficult conversations
   • Trauma informed inductions

#4: MAT Care across settings
   • Specialty behavioral health
   • Corrections
   • Transitions
   • Inpatient, Emergency Room
Target Technical Assistance

- On-site needs assessments with standardized tool for interested primary care clinics to assess readiness for implementation of MAT program.

- Encourage the use of available data to inform patient care and clinical best practice.

- Support clinics in operationalizing MAT program.
  - Staffing models and workflow
  - Workflows,
  - Electronics health record tools
  - Screening for opiate use disorder/dependence.

- Assist clinics in developing partnership with specialty behavioral health for referral and coordination of shared patients, to include induction when not feasible in Primary Care.
**DATA Driven Improvement: Health Share MAT DASHBOARD**

### Health Share MAT Initiation and Engagement Rates

Data is from 3/29/2018 to 3/28/2019

<table>
<thead>
<tr>
<th>Plan Partner</th>
<th>Clinic Assignment</th>
<th>Number of members with OUD diagnosis</th>
<th>Engagement Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAT Initiation</td>
<td>(all)</td>
<td>9,921</td>
<td>57.7%</td>
</tr>
<tr>
<td>No treatment</td>
<td>(all)</td>
<td>9,044</td>
<td>30.7%</td>
</tr>
<tr>
<td>SUDs Treatment without MAT</td>
<td>(all)</td>
<td>1,150</td>
<td>11.6%</td>
</tr>
<tr>
<td>MAT High Engagement</td>
<td>(all)</td>
<td>3,705</td>
<td>37.3%</td>
</tr>
</tbody>
</table>

### Current MAT Engagement Levels among members who receive MAT services

<table>
<thead>
<tr>
<th>MAT Services</th>
<th>Engagement Levels</th>
<th>Engagement Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAT Drop</td>
<td>1,074</td>
<td>18.8%</td>
</tr>
<tr>
<td>MAT Initiation only</td>
<td>149</td>
<td>2.6%</td>
</tr>
<tr>
<td>MAT Early Engagement</td>
<td>281</td>
<td>4.9%</td>
</tr>
<tr>
<td>MAT Low Engagement</td>
<td>56</td>
<td>1.0%</td>
</tr>
<tr>
<td>MAT Moderate Engagement</td>
<td>458</td>
<td>8.0%</td>
</tr>
<tr>
<td>MAT High Engagement-&lt; 6 months</td>
<td>566</td>
<td>9.9%</td>
</tr>
<tr>
<td>MAT High- 6-10 mos</td>
<td>1,144</td>
<td>20.0%</td>
</tr>
<tr>
<td>MAT High- 11+ mos</td>
<td>1,981</td>
<td>34.7%</td>
</tr>
</tbody>
</table>

**MAT services by payer**
Health Share MAT DASHBOARD

• Page one has OTP providers
• Color indicates levels of MAT engagement
Page two has OBOT prescribers
Next steps: Payment and Financial Support

Capacity Building Grant - to support implementation of Medication

Payment model - In development to support prescribing within Primary Care and specialty settings
Next up!

- Continue Targeted Trainings:
  - Trauma Informed Care for Substance Use
  - Behavioral Health Core Competencies-specialty and integrated
  - DATA waiver training- November in JCC and CPCCO

- Continue to align best practices across services settings
  - Intentionally develop patient pathways

- Continue to partner and collaborate with SUD leaders
THANK YOU!