

# New Budget Impact Tool to Help Estimate Costs of Providing Medications to Treat Opioid Use Disorders in Jails/Prisons

JCOIN Coordination and Translation Center (CTC)  
Webinar  
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# Presenters



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- **Declarations of interest**: Dr. Murphy served on an advisory board panel for Indivior, outside the submitted work

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Center for Health Economics of Treatment Interventions for  
Substance Use Disorder, HCV, and HIV



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## Mission

*To develop and disseminate health economic research on healthcare utilization, health outcomes, and health-related behaviors that informs substance use disorder treatment policy and HCV and HIV care of people who use substances*



CHERISH Director: **Bruce Schackman, PhD**  
Saul P. Steinberg Distinguished Professor  
of Healthcare Policy & Research  
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# Presentation Outline

- Overview
- Purpose
- Details of Budget Impact Tool
- Hypothetical Example with Vendor
- Benefits
- Questions

# Overview

- An increasing number of jails and prisons have begun to offer medications for opioid use disorder (MOUD)
  - Buprenorphine (BUP); Methadone; Naltrexone (NTX)
  - Methadone requires federal certification as an opioid treatment provider (OTP)
- Resources required to implement MOUD programs in jails/prisons can vary widely due to the myriad of possible combinations of existing services and potential delivery models
  - Examples of existing services: no MOUD; offering MOUD upon release from incarceration; continuing coverage of MOUD for those entering facility with a Rx, etc.
  - Examples of delivery models: medication provided by the facility's healthcare team; vendor-based delivery; combination of in-house and vendor services
- Jail/prison healthcare is typically constrained by fixed budgets, unlike civilian healthcare

# Overview: Methods

- Uncertainty regarding necessary resources and costs required to implement and sustain a program can be a significant barrier to adoption, especially within a strict budgetary framework
- We developed a customizable budget impact tool to assist jail/prison stakeholders, and criminal-legal researchers in estimating the costs associated with implementing and sustaining an MOUD program
- Site-specific micro-costing analyses were conducted as part of our work alongside 3 clinical trials evaluating the comparative-effectiveness of various MOUD models for jails/prisons

# Overview: Methods

- Micro-costing entailed systematically capturing, cataloging, and valuing changes in resources resulting from the intervention
  - Accounting costs = the actual expenditures of all resources used by the treatment program
  - Economic costs = accounting costs + opportunity costs (e.g., donated services, volunteer effort, subsidized rent, etc.)
- Utilized a combination of administrative data and data collected via semi-structured interviews of relevant personnel; i.e., those most familiar with the day-to-day operations of the MOUD program
  - Included: clinicians, social workers, managers/directors, IT staff, administrators, counselors, superintendents, deputies, and sheriffs
- Studies/Sites
  - MassJCOIN (UG1DA050067): 7 Jails in Massachusetts
  - JCOIN-FRI (UG1DA050077): 6 jails in Maryland
  - HOPPER (R01DA046721): 2 prisons in Maryland and Pennsylvania



# Model Options

MODELS IN CORRECTIONAL SETTINGS	
MODEL TYPE	DESCRIPTION
Off-site medication administration	Patients are transported to community OTPs, hospitals or other medical providers for medication
On-site medication administration by an external provider	External OTPs or other prescribers administer medication to patients within the correctional setting and under the license of the external OTP/provider
On-site naltrexone	Correctional healthcare providers administer naltrexone within the correctional facility for treatment of OUD
Licensed correctional prescribers provide buprenorphine on-site	Correctional physicians, nurse practitioners or physician assistants who are licensed to prescribe buprenorphine administer it within the correctional facility for treatment of OUD and withdrawal
Facility becomes a licensed OTP	The facility obtains an OTP license permitting use of methadone and buprenorphine for treatment of OUD and withdrawal
Facility becomes a licensed health care facility	State and DEA licensing is obtained entitling the facility to the same exemptions as hospitals for use of methadone or buprenorphine during pregnancy or to ensure treatment of other conditions (i.e., HIV, mental illness)

<https://www.vitalstrategies.org/wp-content/uploads/2020/01/Medication-Assisted-Treatment-for-Opioid-Use-Disorder-in-Jails-and-Prisons.pdf>



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# Observed Models

- Identified 3 categories of MOUD delivery models
  - Outside OTP-certified vendor provides and administers methadone on-site. Facility clinicians provide and administer BUP and NTX
  - OTP-certified vendor works inside facility and a dispensary is created. The vendor provides and administers methadone and BUP. Facility may administer NTX
  - Facility becomes certified OTP, creates dispensary, and administers all 3 forms of MOUD

# Model Tradeoffs

MODELS	BENEFIT	TRADE-OFF
Outside vendor provides and administers methadone	<ul style="list-style-type: none"> <li>•Vendors local OTP ensures medication continuity for methadone</li> <li>•Correctional facility partnered with vendors licenses/accreditation to provide methadone</li> <li>•Services for methadone maintenance (i.e., discharge planning)</li> </ul>	<ul style="list-style-type: none"> <li>•Cost of vendor</li> <li>•Additional meetings and trainings with vendor and staff</li> <li>•Coordinating time of vendor staff to administer dosing for incarcerated individuals who have other obligations (i.e., court appearances)</li> </ul>
Vendor works inside correctional facility where a dispensary is created, and vendor administers medications	<ul style="list-style-type: none"> <li>•If vendor has a local OTP, it ensures medication continuity</li> <li>•Correctional facility works under the vendors licenses and accreditation</li> <li>•Other services might be included (discharge planning, group/individual counseling, intake for induction/maintenance)</li> </ul>	<ul style="list-style-type: none"> <li>•Cost of vendor</li> <li>•Additional meetings and trainings with vendor and staff</li> <li>•Availability of vendor staffing to provide facility needs (possibility of turn-over)</li> <li>•Additional Correctional staff time for dosing</li> </ul>
Correctional Facility creates their own OTP	<ul style="list-style-type: none"> <li>•Timing for dosing incarcerated individuals can be coordinated more efficiently</li> <li>•Utilize own staff</li> </ul>	<ul style="list-style-type: none"> <li>•Finding/reconstructing space</li> <li>•Cost of dispensary</li> <li>•Additional staff</li> <li>•Time being approved for licensing and accreditation with regulatory agencies</li> </ul>

# Resources

- **EFFECTIVE TREATMENT FOR OPIOID USE DISORDER FOR INCARCERATED POPULATIONS**  
<https://www.naco.org/resources/opioid-solutions/approved-strategies/incarcerated-pops>
- **JAIL-BASED MEDICATION-ASSISTED TREATMENT**  
<https://www.sheriffs.org/publications/Jail-Based-MAT-PPG.pdf>
- **USE OF MEDICATION-ASSISTED TREATMENT FOR OPIOID USE DISORDER IN CRIMINAL JUSTICE SETTINGS**  
<https://store.samhsa.gov/sites/default/files/d7/priv/pep19-matusecjs.pdf>
- **MEDICATION-ASSISTED TREATMENT FOR OPIOID USE DISORDER IN JAILS AND PRISONS**  
<https://www.vitalstrategies.org/wp-content/uploads/2020/01/Medication-Assisted-Treatment-for-Opioid-Use-Disorder-in-Jails-and-Prisons.pdf>
- **EXPANDING ACCESS TO MEDICATIONS FOR OPIOID USE DISORDER IN CORRECTIONS AND COMMUNITY SETTINGS**  
[https://www.nga.org/wp-content/uploads/2021/02/NGA-Roadmap-on-MOUD-for-People-in-the-Justice-System\\_layout\\_final.pdf](https://www.nga.org/wp-content/uploads/2021/02/NGA-Roadmap-on-MOUD-for-People-in-the-Justice-System_layout_final.pdf)

# Published Manuscript



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## Budget impact tool for the incorporation of medications for opioid use disorder into jail/prison facilities

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[https://www.jsatjournal.com/article/S2949-8759\(22\)00014-5/pdf](https://www.jsatjournal.com/article/S2949-8759(22)00014-5/pdf)

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# Intervention Cost Categories

- Resources/costs are categorized as “fixed”, “time-dependent”, or “variable”
  - Fixed: resources/costs that are incurred only once, and are not directly related to the number of participants
  - Time-dependent: resources/costs that are recurring, but fixed over a given time-period
  - Variable: resources/costs that are a direct function of the number of participants

# Intervention Costs Phases

- **Implementation**: costs incurred for purposes of start-up, and over the time-period required for facility to hit a steady-state with regard to intervention
  - Includes **fixed costs** associated with intervention planning and other one-time resources required for start-up + **time-dependent & variable costs** incurred over some initial time period
  - We assumed fixed costs would be distributed over the course of the first 12 months following start-up, for budgeting purposes
- **Sustainment**: costs required to continuously operate the intervention over time
  - Includes the **time-dependent** and **variable costs** that would be incurred in subsequent years

# Unit Costs

- Nationally-representative values, currently 2020 USD
  - Hourly wages & fringe benefits – Bureau of Labor Statistics
  - Medication & supply costs – VA Federal Supply Schedule
  - Travel expenses – Federal Reimbursement rates
  - Contracted vendor fees – were estimated by averaging across multiple facilities



# Federal Supply Schedule Costs

Technology	
Surveillance Cameras	\$1,340.00
Computer	\$ 825.33
Computer Keyboard/mouse	\$ 39.97
Laptop	\$1,533.00
Printer	\$1,602.97
Security Door Access	\$ 43.39
Webcam	\$ 159.95
Speakers	\$ 72.81
Monitor	\$ 114.99
Panic Alarms	\$ 18.67
Phones	\$ 19.85

Clinical Supplies	
Sharps Container	\$ 35.26
12-panel Urine Screen	\$ 3.14
Pregnancy Tests	\$ 24.89
Oral Swabs	\$ 6.31
Vital Monitor	\$2,859.29
EKG	\$1,426.56
Exam Table	\$2,426.74
Medical Refrigerator	\$3,700.14
Pill Crusher	\$ 21.23
Spectrum Infusion Pump	\$1,295.00
Dispensette recirculation valve	\$ 96.90

Miscellaneous	
Chairs	\$ 68.01
Folding Tables	\$ 278.78
Crackers	\$ 13.80
Cups	\$ 3.67
Flashlight	\$ 19.57
Desk	\$ 200.36
Computer Privacy Screen	\$ 169.25
Headphones	\$ 41.77
Label Maker	\$ 96.57
Folders	\$ 13.17

Storage	
Storage Bin	\$ 141.43
Shelves	\$ 250.29
Locked Cabinets	\$ 280.08
Construction Totes	\$ 50.00
Locked Boxes	\$ 10.00
Safe	\$5,275.00
Medication Cart	\$2,503.92

Information Technology Services	
Network Video & audio systems	\$ 45,002.07
Audio Equipment	\$ 1,427.73
Security System Integration	
EMR/Data Integration System	

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# Medications

Medications	Forms	Must-Haves to Prescribe/Administer
Methadone	Tablets Liquid Solution	License/Accreditation must be obtained to be dispensed and administered in an OTP
Buprenorphine or Buprenorphine/Naloxone	Sublingual Tablets Injection Buccal Film Subdermal Implant	Any healthcare provider who is licensed to prescribe medications
Naltrexone	Tablets Injections	Any healthcare provider who is licensed to prescribe medications

# Federal Supply Schedule Medication Cost(s)

Methadone	
Dose	Cost/month
10mg/ml solution	\$ 23.70
5mg/5ml solution	\$ 94.40
10mg/5ml solution	\$ 188.80
1mg/ml solution	\$ 59.05
10 mg tablet	\$ 16.93
5mg tablet	\$ 3.73
40mg tablet	\$ 18.59

Buprenorphine or Buprenorphine/Naloxone	
Dose	Cost/month
BUPRENORPHINE HCL 2MG/NALOXONE HCL 0.5MG TAB,	\$ 45.27
BUPRENORPHINE HCL 8MG/NALOXONE HCL 2MG TAB,	\$ 62.38
BUPRENORPHINE 2MG/NALOXONE 0.5MG FILM,SUBLING	\$ 43.47
BUPRENORPHINE 4MG/NALOXONE 1MG FILM,SUBLING	\$ 74.06
BUPRENORPHINE 12MG/NALOXONE 3MG FILM,SUBLING	\$ 137.28
BUPRENORPHINE 8MG/NALOXONE 2MG FILM,SUBLING	\$ 71.43
BUPRENORPHINE HCL 2MG TAB,SUBLINGUAL	\$ 22.33
BUPRENORPHINE HCL 8MG TAB,SUBLINGUAL	\$ 39.75
BUPRENORPHINE 5MCG/HR PATCH	\$ 85.68
BUPRENORPHINE 7.5MCG/HR PATCH	\$ 172.63
BUPRENORPHINE 10MCG/HR PATCH	\$ 129.38
BUPRENORPHINE 15MCG/HR PATCH	\$ 189.84
BUPRENORPHINE 20MCG/HR PATCH	\$ 233.55
SUBLOCADE 100MG/0.5ML INJ,SA,SYRINGE,0.5ML	\$ 1,169.72
SUBLOCADE 300MG/1.5ML INJ,SA,SYRINGE,1.5ML	\$ 1,169.42
BUPRENEX 0.3MG INJ	\$ 56.66
SUBOXONE SUBLINGUAL FILM	\$ 13.49
SUBOXONE SUBLINGUAL FILM 4MG	\$ 21.97
SUBOXONE SUBLINGUAL FILM	\$ 88.29
SUBOXONE SUBLINGUAL FILM 12MG	\$ 134.92

Extended-Release Naltrexone	
Dose	Cost/month
VIVITROL 380MG/VIL INJ	\$ 1,226.91



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# The Budget Impact Tool

- 5 Microsoft Excel worksheets with drop-down menus:
  - Dashboard
  - Fixed and Time Dependent Costs
  - Therapy Costs
  - Labor Costs
  - Testing Supplies

# Dashboard

Resource Category	Annual Totals
<b>Fixed Start Up Costs</b>	\$ -
Accreditation and Licensing Fee	\$ -
Dispensary	\$ -
Information Technology Services	\$ -
Supplies	\$ -
Meetings	\$ -
Training	\$ -
Interim Medication Delivery	\$ -
<b>Time Dependent Costs (Annual)</b>	\$ -
Annual Fee(s)	\$ -
Software System	\$ -
Trainings	\$ -
Meetings	\$ -
Medication Delivery	\$ -
<b>Variable Costs</b>	\$ -
Labor Costs	\$ -
Testing Supplies	\$ -
OUD Treatment Costs	\$ -
<b>Year 1 Costs</b>	\$ -
<b>Subsequent Annual Costs</b>	\$ -
<b>Sustainment-Per Patient Cost</b>	\$ -

# Fixed Start-Up

Resource Category	Annual Totals
<b>Fixed Start Up Costs</b>	\$ -
Accreditation and Licensing Fee	\$ -
Dispensary	\$ -
Information Technology Services	\$ -
Supplies	\$ -
Meetings	\$ -
Training	\$ -
Interim Medication Delivery	\$ -
<b>Time Dependent Costs (Annual)</b>	\$ -
<b>Variable Costs</b>	\$ -
<b>Year 1 Costs</b>	\$ -
<b>Subsequent Annual Costs</b>	\$ -
<b>Sustainment-Per Patient Cost</b>	\$ -



Fixed Start-Up Costs			Total	
<b>Accreditation and Licensing Fee</b>				
Vendor Start-Up Fee	Unit Cost	Unit		
Fee	\$ -			
Provisional OTP License	\$/hr	hrs/month	# of employees	# of months
Personnel	\$ -			
OTP Applications	\$/hr	hrs/month	# of employees	# of months
Personnel	\$ -			
Regulatory Agency Inspection	\$/hr	hrs/month	# of employees	# of months
Personnel	\$ -			
<b>Dispensary</b>				
Design	Unit Cost	Unit		
Furniture/Supplies for Dispensary	\$ -			
Safe	\$ -			
Construction Costs	\$/hr	hrs/month	# of employees	# of months
Personnel	\$ -			
<b>Information Technology System</b>				
Software System	Unit Cost	Unit		
	\$ -			
<b>Supplies</b>				
Lock Boxes	Unit Cost	Unit		
	\$ -			
<b>Meetings to Implement Program</b>				
Personnel	\$/hr	hrs/month	# of employees	# of months
	\$ -			
<b>Training</b>				
Personnel	\$/hr	hrs	# of employees	# of months
	\$ -			
<b>Interim Medication Delivery</b>				
Mileage	\$/mile	miles/month		# of months
	\$ -			
Personnel	\$/hr	hrs/month		
	\$ -			

# Time-Dependent

Resource Category	Annual Totals
<b>Fixed Start Up Costs</b>	\$ -
<b>Time Dependent Costs (Annual)</b>	\$ -
Annual Fee(s)	\$ -
Software System	\$ -
Trainings	\$ -
Meetings	\$ -
Medication Delivery	\$ -
<b>Variable Costs</b>	\$ -
<b>Year 1 Costs</b>	\$ -
<b>Subsequent Annual Costs</b>	\$ -
<b>Sustainment-Per Patient Cost</b>	\$ -



Time Dependent Costs				
<b>Annual License Fee(s)</b>		<b>Unit</b>	<b># of months</b>	
Regulatory Agencies	\$ -			
Contracted Vendor	\$ -			
Renewal Application	\$/hr	hrs/yr	# of employees	Per Year
Personnel	\$ -			
<b>Annual Software System</b>		<b>Per-User</b>	<b>Users</b>	<b># of months</b>
	\$ -			
<b>Annual Training(s)</b>		<b>\$/hr</b>	<b>hrs/yr</b>	<b># of employees</b>
Personnel	\$ -			
<b>Meetings</b>		<b>\$/hr</b>	<b>hrs/mo</b>	<b># of employees</b>
Personnel	\$ -			
<b>Medication Delivery</b>		<b>\$/mile</b>	<b>miles/mo</b>	<b># of months</b>
Mileage*	\$ -			
	\$/hr	hrs/month		# of months
Personnel	\$ -			

# Variable

Resource Category	Annual Totals
<b>Fixed Start Up Costs</b>	\$ -
<b>Time Dependent Costs (Annual)</b>	\$ -
<b>Variable Costs</b>	\$ -
Labor Costs	\$ -
Testing Supplies	\$ -
OUD Treatment Costs	\$ -
<b>Year 1 Costs</b>	\$ -
<b>Subsequent Annual Costs</b>	\$ -
<b>Sustainment-Per Patient Cost</b>	\$ -



Labor Inputs		Annual Salary	Fringe Rate	Adjusted Annual Salary	FTE	Annual Cost
<b>Employees</b>						
	Physician	\$218,850	31%	\$287,131	0.20	\$57,426
<b>Vendor Employees</b>						
	Personnel					

Testing				\$ -
	Unit Cost	Unit	# of Months	Annual Cost
<b>Oral Fluid Drug Screen</b>				
Oral Fluid Drug Screen Collection Device	\$ -			
THC/COC/AMP/OPI300/mAMP/PCP/BAR/BZO/MTD/MDMA/OXY/K2	\$ -			
Additional Tests : Buprenorphine, Fentanyl, Methamphetamine	\$ -			
<b>Urine Drug Screen</b>				
Amphetamines/Methamphetamine, Benzodiazepines, Cannabinoids, Cocaine, Methadone, Methadone Metabolite, Oxycodone	\$ -			
Additional Tests : Fentanyl	\$ -			
Additional Tests : Buprenorphine	\$ -			
<b>Additional Supplies</b>				
Crackers	\$ -			
Cups	\$ -			

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# Variable

Resource Category	Annual Totals
<b>Fixed Start Up Costs</b>	\$ -
<b>Time Dependent Costs (Annual)</b>	\$ -
<b>Variable Costs</b>	\$ -
Labor Costs	\$ -
Testing Supplies	\$ -
OU Treatment Costs	\$ -
<b>Year 1 Costs</b>	\$ -
<b>Subsequent Annual Costs</b>	\$ -
<b>Sustainment-Per Patient Cost</b>	\$ -



OU Treatment Costs					\$	-
OU Treatment		Daily Cost Per Patient	Patients/Month	Days/Month	Months	
	Methadone	\$	-			
	Suboxone	\$	-			
	Subutex	\$	-			
	Extended Release Naltrexone	\$	-			
	Extended Release Buprenorphine	\$	-			
	Naltrexone Tablet	\$	-			
MOUD Assessment						
	<b>Induction</b>	\$/Hr	Hours	Patients/Month	Months	
	Personnel					
	<b>Maintenance</b>	\$/Hr	Hours	Patients/Month	Months	
	Personnel					
	<b>Discharge Planning</b>	\$/Hr	Hours	Patients/Month	Months	
	Personnel					
	<b>Transporting Medication</b>	\$/Hr	Hours	Patients/Month	Months	
	Personnel					
	<b>Dosing</b>	\$/Hr	Hrs/month	# of groups	Months	
	Personnel					
	<b>Program Counseling</b>					
	<b>Group Counseling Sessions</b>	\$/Hr	Hours	# of Groups/Month	Months	
	Personnel					
	<b>Individual Counseling Sessions</b>	\$/Hr	Hours	# of Patients/Month	Months	
	Personnel					

# Hypothetical Example

Correctional facility chooses to offer all 3 MOUD using a combination of outside vendors and their own healthcare staff

- The vendor provides induction and maintenance on BUP & methadone, while XR-NTX is already offered by the facility
- All 3 medications would be administered by the facility's medical staff
- Average number of MOUD patients per month: 123 (86 on BUP; 28 on methadone; and 9 on XR-NTX)
  - 42 patients are inducted, and 81 patients are maintained

# Dashboard

Resource Category	Annual Totals
<b>Fixed Start Up Costs</b>	<b>\$ 49,887</b>
Vendor Accreditation and Licensing Fee	\$ -
Dispensary	\$ -
Information Technology Services	\$ 10,000
Supplies	\$ 5,050
Meetings	\$ 32,549
Training	\$ 2,289
Interim Medication Delivery	\$ -
<b>Time Dependent Costs (Annual)</b>	<b>\$ 543,368</b>
Annual Vendor Fee	\$ 74,060
Software System	\$ 1,120
Trainings	\$ 36,867
Meetings	\$ 84,982
Medication Delivery	\$ 102,691
Dosing	\$ 243,648
<b>Variable Costs</b>	<b>\$ 3,950,890</b>
Labor Costs	\$ 3,109,221
Testing Supplies	\$ 88,920
OUD Treatment Costs	\$ 752,749
<b>Year 1 Costs</b>	<b>\$ 4,544,145</b>
<b>Subsequent annual Costs</b>	<b>\$ 4,494,258</b>
<b>Sustainment Per-Patient Cost</b>	<b>\$ 3,044</b>



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# Fixed Start-Up

Resource Category	Annual Totals
<b>Fixed Start Up Costs</b>	<b>\$ 49,887</b>
Vendor Accreditation and Licensing Fee	\$ -
Dispensary	\$ -
Information Technology Services	\$ 10,000
Supplies	\$ 5,050
Meetings	\$ 32,549
Training	\$ 2,289
Interim Medication Delivery	\$ -
<b>Time Dependent Costs (Annual)</b>	<b>\$ 543,368</b>
<b>Variable Costs</b>	<b>\$ 3,950,890</b>
<b>Year 1 Costs</b>	<b>\$ 4,544,145</b>
<b>Subsequent annual Costs</b>	<b>\$ 4,494,258</b>
<b>Sustainment Per-Patient Cost</b>	<b>\$ 3,044</b>



Fixed Start-Up Costs				\$ 49,887	
	Unit Cost	Unit	Duration of Time (months)	Total	
<b>Information Technology System</b>				<b>\$ 10,000</b>	
Software System	\$10,000	1		\$ 10,000	
<b>Storage Supplies</b>				<b>\$ 5,050</b>	
Lock Boxes	\$10	5		\$ 50	
Construction Totes	\$50	100		\$ 5,000	
<b>Meetings to Implement Program</b>				<b>\$ 32,549</b>	
	<b>\$/hr</b>	<b>hrs per month</b>	<b># of employees</b>	<b># of months</b>	
Special Sheriff	\$78	4	1	8	\$ 2,495
Superintendent	\$75	4	1	8	\$ 2,391
Assistant Superintendent of Programs	\$61	4	1	8	\$ 1,956
MAT Director	\$54	4	1	8	\$ 1,729
Director of Fiscal Operations	\$47	4	1	8	\$ 1,512
CFO	\$67	4	1	8	\$ 2,152
Health Services Administrator	\$59	4	1	8	\$ 1,889
Regional Director	\$87	4	1	8	\$ 2,789
Regional Vice President	\$87	4	1	8	\$ 2,789
Project Manager	\$53	4	1	8	\$ 1,697
Clinic Director	\$67	4	1	8	\$ 2,152
VP Operations & Program Development	\$75	4	1	8	\$ 2,391
Medication Compliance Specialist	\$30	4	1	8	\$ 972
Clinical Supervisor	\$56	4	1	8	\$ 1,797
Clinician	\$33	4	1	8	\$ 1,049
Regional Director of Operations	\$87	4	1	8	\$ 2,789
<b>Training</b>				<b>\$ 2,289</b>	
	<b>\$/hr</b>	<b>hrs</b>	<b># of employees</b>		
Registered Nurse Manager	\$50	8	1	\$ 403	
Licensed Practical Nurse	\$32	8	2	\$ 504	
Registered Nurse-intake	\$50	8	2	\$ 805	
<b>OBOT Training</b>					
	<b>\$/hr</b>	<b>hrs</b>	<b># of employees</b>		
Registered Nurse Manager	\$50	2	1	\$ 101	
Licensed Practical Nurse	\$32	2	1	\$ 63	
Registered Nurse-intake	\$50	2	1	\$ 101	
Clinical Supervisor	\$56	2	1	\$ 112	
Clinician	\$33	2	1	\$ 66	
Clinic Director	\$67	2	1	\$ 134	

# Time-Dependent

Resource Category	Annual Totals
<b>Fixed Start Up Costs</b>	<b>\$ 49,887</b>
<b>Time Dependent Costs (Annual)</b>	<b>\$ 543,368</b>
Annual Vendor Fee	\$ 74,060
Software System	\$ 1,120
Trainings	\$ 36,867
Meetings	\$ 84,982
Medication Delivery	\$ 102,691
Dosing	\$ 243,648
<b>Variable Costs</b>	<b>\$ 3,950,890</b>
<b>Year 1 Costs</b>	<b>\$ 4,544,145</b>
<b>Subsequent annual Costs</b>	<b>\$ 4,494,258</b>
<b>Sustainment Per-Patient Cost</b>	<b>\$ 3,044</b>



Time Dependent Costs					\$543,368
<b>Annual License Fee(s)</b>		<b>Unit Cost</b>		<b># of months</b>	<b>\$ 74,060</b>
Contracted Vendor					
	Vendor License Fee	\$ 2,060		1	\$ 2,060
	Administrative Fee	\$ 6,000		12	\$ 72,000
<b>Annual Software System</b>		<b>Per-User</b>	<b>Users</b>	<b>per year</b>	<b>\$ 1,120</b>
		\$112	10	1	\$ 1,120
<b>Annual Training</b>		<b>\$/hr</b>	<b>hrs/yr</b>	<b># of employees</b>	<b>per year</b>
	Registered Nurse Manager	\$50	40	1	\$ 2,013
	Licensed Practical Nurse	\$32	40	2	\$ 2,520
	Registered Nurse Intake	\$50	40	1	\$ 2,013
	Health Service Administrator	\$59	40	1	\$ 2,361
	Project Manager	\$53	40	1	\$ 2,121
<b>Meetings</b>					
<b>MultiDisciplinary Team:</b>		<b>\$/hr</b>	<b>hrs/mo</b>	<b># of employees</b>	<b># of months</b>
	Vendor Clinician	\$33	8	1	12
	Physician	\$138	8	1	12
	Peer Support Navigators	\$34	8	1	12
	Security Personnel	\$43	8	1	12
<b>Meetings with Contracted Vendors</b>		<b>\$/hr</b>	<b>hrs per month</b>	<b># of employees</b>	<b># of months</b>
	Physician- Addiction Specialist	\$138	4	1	12
	Vendor Clinician	\$33	4	1	12
	MAT Director	\$54	4	1	12
	Health Services Administrator	\$59	4	1	12
<b>Nurse Meetings</b>		<b>\$/hr</b>	<b>hrs per month</b>	<b># of employees</b>	<b># of months</b>
	Registered Nurse Manager	\$50	1	1	12
	Licensed Practical Nurse	\$32	1	1	12
<b>Medication Delivery</b>		<b>\$/mile</b>	<b>miles/mo</b>	<b># of months</b>	<b>\$ 102,691</b>
	Mileage	\$0.20	800	12	
		<b>\$/hr</b>	<b>hrs/month</b>	<b># of months</b>	
	Security Personnel Time	\$43	75	12	\$ 38,266
	Security Personnel Time	\$43	37.5	12	\$ 19,133
	Registered Nurse Time	\$50	75	12	\$ 45,291
<b>Dosing</b>		<b>\$/hr</b>	<b>hrs/month</b>	<b># of groups</b>	<b># of months</b>
	Nurse	\$50	15	10	12
	Security Officers	\$43	15	10	12
	Security Officers	\$43	15	10	12

# Variable Costs

Resource Category	Annual Totals
<b>Fixed Start Up Costs</b>	<b>\$ 49,887</b>
<b>Time Dependent Costs (Annual)</b>	<b>\$ 543,368</b>
<b>Variable Costs</b>	<b>\$ 3,950,890</b>
Labor Costs	\$ 3,109,221
Testing Supplies	\$ 88,920
ODU Treatment Costs	\$ 752,749
<b>Year 1 Costs</b>	<b>\$ 4,544,145</b>
<b>Subsequent annual Costs</b>	<b>\$ 4,494,258</b>
<b>Sustainment Per-Patient Cost</b>	<b>\$ 3,044</b>



<b>Labor Inputs</b>					
<b>Employees</b>	<b>Annual Salary</b>	<b>Fringe Rate</b>	<b>Adjusted Annual Salary</b>	<b>FTE</b>	<b>Annual Cost</b>
Security Personnel	\$67,600	31%	\$88,691	5.00	\$443,456
<b>Vendor Employees</b>					
Physician	\$218,850	31%	\$287,131	0.20	\$57,426

<b>Testing</b>				<b>\$88,920</b>
	<b>Unit Cost</b>	<b>Unit</b>	<b>Duration in Months</b>	<b>Annual Cost</b>
<b>Oral Fluid Drug Screen</b>				<b>\$ 44,220</b>
Oral Fluid Drug Screen Collection Device	\$3	500	12	\$ 15,000
THC/COC/AMP/OPI300/mAMP/PCP/BAR/BZO/MTD/MDMA/OXY/K2	\$5	500	12	\$ 27,420
Additional Tests : Buprenorphine, Fentanyl, Methamphetamine	\$2	100	12	\$ 1,800
<b>Urine Drug Screen w/ Creatinine</b>				<b>\$ 39,900</b>
Amphetamines/Methamphetamine, Benzodiazepines, Cannabinoids, Cocaine, Methadone, Methadone Metabolite, Oxycodone	\$6	500	12	\$ 37,500
Additional Tests : Fentanyl	\$2	100	12	\$ 1,800
Additional Tests : Buprenorphine	\$1	100	12	\$ 600
<b>Additional Supplies</b>				<b>\$ 4,800</b>
Crackers	\$3	100	12	\$ 3,600
Cups	\$1	100	12	\$ 1,200

# Variable Costs

Resource Category	Annual Totals
<b>Fixed Start Up Costs</b>	<b>\$ 49,887</b>
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ODU Treatment Costs	\$ 752,749
<b>Year 1 Costs</b>	<b>\$ 4,544,145</b>
<b>Subsequent annual Costs</b>	<b>\$ 4,494,258</b>
<b>Sustainment Per-Patient Cost</b>	<b>\$ 3,044</b>



ODU Treatment Costs					\$ 752,749
<b>ODU Treatment</b>	<b>Daily Cost Per Patient</b>	<b>Patients Per Month</b>	<b>Days/Month</b>	<b>Months</b>	<b>\$ 542,808</b>
Methadone	\$10.00	28	30	12	\$ 100,800
Suboxone	\$10.00	68	30	12	\$ 244,800
Subutex	\$10.00	18	30	12	\$ 64,800
Extended Release Naltrexone	\$1,226	9	1	12	\$ 132,408
Extended Release Buprenorphine	\$1,169		1	12	
Naltrexone Tablet	\$96		30	12	
<b>MOUD Assessment</b>					<b>\$ 127,084</b>
<b>Induction</b>	<b>\$/Hr</b>	<b>Hours</b>	<b>Patients/Month</b>	<b>Months</b>	<b>\$ 103,186</b>
MOUD Behavioral Clinician	\$34	1	42	12	\$ 17,289
Clinician	\$33	1	42	12	\$ 16,522
Physician	\$138	1	42	12	\$ 69,375
<b>Maintenance</b>					
Clinician	\$33	0.75	81	12	\$ 23,898
<b>Program Counseling</b>					<b>\$ 82,857</b>
<b>Group Counseling Sessions</b>	<b>\$/Hr</b>	<b>Hours/Month</b>	<b># of Groups/Month</b>	<b>Months</b>	
Vendor Clinician Supervisor	\$56	16	1	12	\$ 10,783
Vendor Clinician	\$33	16	1	12	\$ 6,294
<b>Individual Counseling Sessions</b>	<b>\$/Hr</b>	<b>Hours</b>	<b># of Patients/Month</b>	<b>Months</b>	
Vendor Clinician Supervisor	\$56	1	62	12	\$ 41,783
Vendor Clinician	\$33	1	61	12	\$ 23,996

# Dashboard

Resource Category	Annual Totals
<b>Fixed Start Up Costs</b>	<b>\$ 49,887</b>
Vendor Accreditation and Licensing Fee	\$ -
Dispensary	\$ -
Information Technology Services	\$ 10,000
Supplies	\$ 5,050
Meetings	\$ 32,549
Training	\$ 2,289
Interim Medication Delivery	\$ -
<b>Time Dependent Costs (Annual)</b>	<b>\$ 543,368</b>
Annual Vendor Fee	\$ 74,060
Software System	\$ 1,120
Trainings	\$ 36,867
Meetings	\$ 84,982
Medication Delivery	\$ 102,691
Dosing	\$ 243,648
<b>Variable Costs</b>	<b>\$ 3,950,890</b>
Labor Costs	\$ 3,109,221
Testing Supplies	\$ 88,920
OUD Treatment Costs	\$ 752,749
<b>Year 1 Costs</b>	<b>\$ 4,544,145</b>
<b>Subsequent annual Costs</b>	<b>\$ 4,494,258</b>
<b>Sustainment Per-Patient Cost</b>	<b>\$ 3,044</b>

## Example Cost Estimates:

- Implementation = \$4,544,145
  - Assuming fixed costs are distributed over first 12 months of the program
- Annual sustainment = \$4,494,258
  - \$3,044 per-patient



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# Considerations

- The example provided is not specific to any particular facility's MOUD program, but demonstrates one possible use of the tool
- Feasible MOUD delivery models will vary based on factors like location, capacity, funding availability, and existing personnel
- Decision-makers should consider not only the relative program costs but also the relative effectiveness of feasible models and potential cost-offsets resulting from successful treatment, such as reduced recidivism, lower healthcare utilization, and decreased reliance on safety-net programs

# Discussion

- The care provided by jails and prisons is critical to fighting disease, and promoting physical and behavioral health
- Incorporating MOUD into that care model has been shown to also promote both public and economic health
- The budget impact tool presented today
  - provides practical information on costs associated with implementing and sustaining MOUD programs in jails and prisons
  - is customizable; users will select the quantity of each relevant resource, adjust the unit cost if desired, and be able to view detailed cost estimates for each resource category

Tool and manuscript available on CHERISH website  
<https://cherishresearch.org/tools-and-resources/budget-impact-tool/>

# Consultation Service

We support researchers with the design, implementation, interpretation, dissemination, and translation of economic evaluations alongside observational and interventional studies of substance use disorder and related conditions. Our service provides a maximum of **6 hours** of consultation time, **free of charge**.

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- Health economic modeling
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- Analyzing data from an existing study
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- Planning a study
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- Dissemination planning or execution

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# THANK YOU!

## Any Questions?

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