The Steering Committee is made up of scientists, clinicians, RCC leadership and persons with lived experience from multiple organizations and institutions from across the US.

Principal Investigators:

John F. Kelly
Bettina B. Hoeppner
Patty McCarthy
Julia Ojeda
Philip Rutherford
Robert D. Ashford
Brandon G. Bergman
Lauren A. Hoffman
Vinod Rao
Amy A. Mericle
Our R24 Main Initiatives

1. **Monthly seminar series** every first Friday of the month
   - Bring multiple stakeholders together
   - You can view previous slides and recordings here: [https://www.recoveryanswers.org/addiction-research-summaries/seminar-series/](https://www.recoveryanswers.org/addiction-research-summaries/seminar-series/)

2. **Pilot study funding**
   - Bringing together academic and community teams
   - Next deadline for applications: April 1st and October 1st, 2023
   - Examples of currently funded projects:
     [http://www.recoveryanswers.org/assets/Seminar-12-Presentation.pdf](http://www.recoveryanswers.org/assets/Seminar-12-Presentation.pdf)

3. **Repository of Scales**
   - Making it easy to find measures that fit your RCC research need
     [https://www.recoveryanswers.org/addiction-research-summaries/repository-useful-scales/](https://www.recoveryanswers.org/addiction-research-summaries/repository-useful-scales/)

![Pie chart showing the distribution of roles in pilot study funding applications.](chart.png)
Upcoming Seminars

• The role a state’s department of public health can play in the creation and thriving of RCCs
  • Friday, March 3rd, 2023 at 12PM ET
  • Presenter: Ms. Danielle O’Brien of the Bureau of Substance Addiction Services, Massachusetts Department of Public Health (DPH)
  • RCC Live Feature: Angela Burton of the Detroit Recovery Project
  • Register here: https://partners.zoom.us/meeting/register/tZwsdO6vqTMiH9Bi3D3o3DoqenialcJY-oR0

• Outcome presentation for pilot project #2: Feedback on a mobile application intervention to support pregnant and postpartum women and people (PPWP) in recovery
  • Friday, April 7th, 2023 at 12PM ET
  • Presenters: Drs. Hannah S. Szlyk and Patricia Cavazos-Rehg (Washington University School of Medicine in St. Louis)
  • Discussants: Dr. Davida Schiff (Massachusetts General Hospital), Dr. Roger Vilardaga (Duke University), Pastor Marsha Hourd (Director of CAFE & LIFE Recovery Center) and Ty Bechel (Executive director of Amare Recovery)
  • Register here: https://partners.zoom.us/meeting/register/tZYkd-qsqDMuHNNFerkGN0Kqu1XvdFbx_QkP
Polling Questions

A pop-up Zoom window will appear with the poll questions.

You must complete all questions before clicking to submit.

Remember to scroll down to see all the questions!

We will share the poll results after a few minutes.

Your responses will remain anonymous.
RCC Live Feature

We are featuring a different RCC at the start of each of our seminars in order to allow all participants to learn first-hand about RCCs.

Anita Bradley
Northern Ohio Recovery Association
President and CEO

https://norainc.org/

Located in: Cleveland, OH
Presenters

Dr. H. Shelton Brown
Associate professor
University of Texas School of Public Health

Sierra Castedo de Martell, MPH
Doctoral Candidate
University of Texas School of Public Health

Margaret (Marnie) Moore
Doctoral Candidate
University of Texas School of Public Health
Cost-effectiveness calculators for RCCs: A pilot of peer recovery support services and bystander naloxone distribution

Recovery Research Institute Seminar Series: February 3, 2023

Sierra Castedo de Martell, MPH, Doctoral Candidate, Sierra.J.CastedodeMartell@uth.tmc.edu
Margaret Brannon Moore, JD, LLM, MPH, Doctoral Candidate, Margaret.B.Moore@uth.tmc.edu
Hannah Wang, PhD, Programmer Analyst IV, Information Technology
H. Shelton Brown, III, PhD, Associate Professor and PI, The University of Texas Health Science Center at Houston, School of Public Health
Funding from NIDA R24DA051988 Recovery Research Institute Pilot Grant
Outline for Today

• Background of the project

• Aims:
  • (1) conduct a preliminary CEA of PRSS in the RCC setting, (Sierra)
  • (2a) construct a pilot cost-effectiveness calculator for RCCs to evaluate PRSS, (Dr. Brown) and
  • (2b) incorporate an existing CEA of bystander naloxone distribution into the pilot calculator (Marnie).

• Peek at the calculator

• Future directions
Background

• Our ultimate goal: a tool for communities and organizations
  • A free, web-based multi-faceted cost-effectiveness calculator that:
    • Empowers stakeholders to use cost-effectiveness information
    • Increases support for existing programs, build support for the adoption of programs
  • Fill in the knowledge gaps – very little economic evaluation research on peer-driven SUD interventions.
Background

• Lots of work to do!

• Collegiate recovery program calculator [here](#)

• Pilot funding to make today’s calculator (NIDA R24DA051988 Recovery Research Institute Pilot Grant)
  • Peer recovery support services (PRSS)
  • Bystander naloxone distribution (Coffin & Sullivan, 2013)

• Future work to build out more pieces of the calculator, publication and dissemination, and test potential impacts.
What is Cost-Effectiveness Analysis?

Longer tutorial available on the calculator site

web.sph.uth.edu/cea/
What is Cost-Effectiveness Analysis?

The *intervention* (program, activity)
What is Cost-Effectiveness Analysis?

Resources that make an intervention happen

The intervention (program, activity)
What is Cost-Effectiveness Analysis?

Resources that make an intervention happen

The intervention (program, activity)

The good stuff that our intervention produces
What is Cost-Effectiveness Analysis?

- **Resources** that make an intervention happen
- The **intervention** (program, activity)
- The **good stuff** that our intervention produces

How balanced are resources to good stuff?
Cost of Intervention–Cost of Treatment as Usual
\[
\frac{\text{Intervention Effect–Treatment as Usual Effect}}{= \text{ICER}}
\]

• **Costs:**
  • All $$$
  • Societal and health system perspectives

• **Effects:**
  • No $$$
  • QALY and ideally something meaningful (people in recovery)

So we will have at least 2 ICERs, maybe 4
Interpreting ICER (the result)

Willingness-to-pay thresholds

Cost-effective to whatever threshold the number falls below

Cost-saving AND cost-effective

$200,000 threshold

$100,000 threshold

$50,000 threshold

Smaller, more meaningful threshold (e.g. cost of treatment episode)

Below zero (because costs are less, but effects are better)
Longer tutorial and slides with detailed notes available in the “Tutorial and Resources” tab on the calculator site:

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PRSS Model

Cost of Intervention – Cost of Treatment as Usual

\[
\frac{\text{Cost of Intervention}}{\text{Cost of Treatment as Usual}} = \text{Intervention Effect – Treatment as Usual Effect}
\]

\[
\text{Incremental Cost-Effectiveness Ratio}
\]

Differences in Costs

Discounted differences in QALYs, or # in recovery at 3 years

Receives Specialty SUD Treatment

{+ ~ 1 Year PRSS}

No PRSS (treatment only)

% Recovery

% Chaotic substance use

% Mortality

% Recovery

% Chaotic substance use

% Mortality
Results: Base Case

PRSS Effects

- 571,927 or 2.25% more QALYs than treatment only

Health System Perspective

- Cost-effective to all thresholds
- $5,898.60 per QALY

Societal Perspective

- Cost-effective to all thresholds
- $3,421.58 per QALY

- 319,404 or 40.75% more people in recovery than treatment only
- $10,562.08 per person in recovery

- 319,404 or 40.75% more people in recovery than treatment only
- $6,126.72 per person in recovery
Results: Probabilistic Sensitivity Analysis

- Health System - QALYs
- Health System - People in Recovery
- Societal - QALYs
- Societal - People in Recovery

~60% - 70%

~85-95%
Key Take-Aways

• PRSS are cost-effective across wide variety of circumstances

• One-way sensitivity analysis reveals peer worker pay and service utilization has less effect on cost-effectiveness than factors like PRSS effectiveness and retention.
  
  • Impact efficiency through program improvement – not through depressing wages or limiting service utilization.

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• Future directions
THANK YOU to Communities for Recovery and RecoveryATX for providing critical feedback!

Funding from Recovery Research Institute Pilot Grant Program

Pilot funded → Background research → RCCs review model

Finalize pilot calculator → RCCs test calculator → Calculator prototype

Presented at NAPS (launch) → Gathering feedback on pilot → Future improvements + expansion

THANK YOU to Communities for Recovery and RecoveryATX for providing critical feedback!
### The Markov Chain

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</table>

**Intervention**

```
=MMULT(K3:M3,${F$10:$H$12})
```
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• Peek at the calculator

• Future directions
Bystander Naloxone Distribution Model

\[
\frac{\text{Cost of Intervention} - \text{Cost of Treatment as Usual}}{\text{Intervention Effect} - \text{Treatment as Usual Effect}} = \frac{\text{Differences in Costs}}{\text{Discounted differences in QALYs, or \# who survive the overdose}}
\]

A bystander gives naloxone they got from your RCO*

EMS gives naloxone or no naloxone given

\% Survives overdose

\% Mortality

*Model includes probabilities of several factors, including presence of naloxone, administration of naloxone, EMS transport, etc.
Cost Effectiveness of Distributing Naloxone to Lay Users

• Cost-Effectiveness of Distributing Naloxone to Heroin Users for Lay Overdose Reversal, Coffin and Sullivan (2013)

• Found that distributing naloxone to heroin users for reversal by bystanders was cost-effective. One life would be saved per 227 naloxone kits distributed.

• Rigorous cost-effectiveness study.

• Modeled the calculator after this study, updating the parameters and simplifying some of the analysis.
Bystander Naloxone Distribution Calculator Parameters

• Updated parameters to 2019 values where relevant.

• Other parameters were revised based on the literature, such as:
  • Likelihood that overdose was witnessed
  • Likelihood that naloxone administered if witnessed
  • Proportion who call EMS if witnessed
  • Proportion transferred to ED if EMS called
  • Medical costs

• Modeled probability of overdose over three years, rather than modeling multiple overdoses
Bystander Naloxone Distribution Calculator Parameters

• Did not include some parameters from study, such as utility and transition from heroin use to discontinued use following an overdose

• Question survival rate from overdose if no treatment administered. Markov chain calculations on mortality measures mortality in excess of background rates.

• Calculator represents a robust model that allows RCCs to calculate the cost-effectiveness of distributing naloxone to their participants in order for witnesses who have access to that naloxone to administer it.
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• Peek at the calculator

• Future directions
Let’s look at the calculator!

web.sph.uth.edu/cea/
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• Peek at the calculator

• Future directions
Future Research

Recovery Utility

National Recovery Survey → EUROHIS-QOL → QALY Weight

(Kelly et al., 2018)

General measure of recovery utility

Recovery utility at different recovery lengths (e.g. 1 month, 6 months, 1 year, 3 years, etc.)
Future Research

Recovery Utility

National Recovery Survey ➔ EUROHIS-QOL ➔ QALY Weight

Expansion in future to other forms of recovery quality of life measurement (e.g. Recovery Capital)
Future Directions

Cost-effectiveness Calculators as Decision Aids in Funding Community Substance Use Interventions

Conduct Cost-Effectiveness Analyses

Create Cost-Effectiveness Calculators

Test Decision-Making, Adoption

R34→ R01, co-investigator with Dr. H.S. Brown, Dr. Lori Holleran Steiker (+ others)
UTHealth, UT Austin, National Sobering Collaborative, ARCO, ARHE, ARS, AAPG
Additional feedback or questions?

web.sph.uth.edu/cea/

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