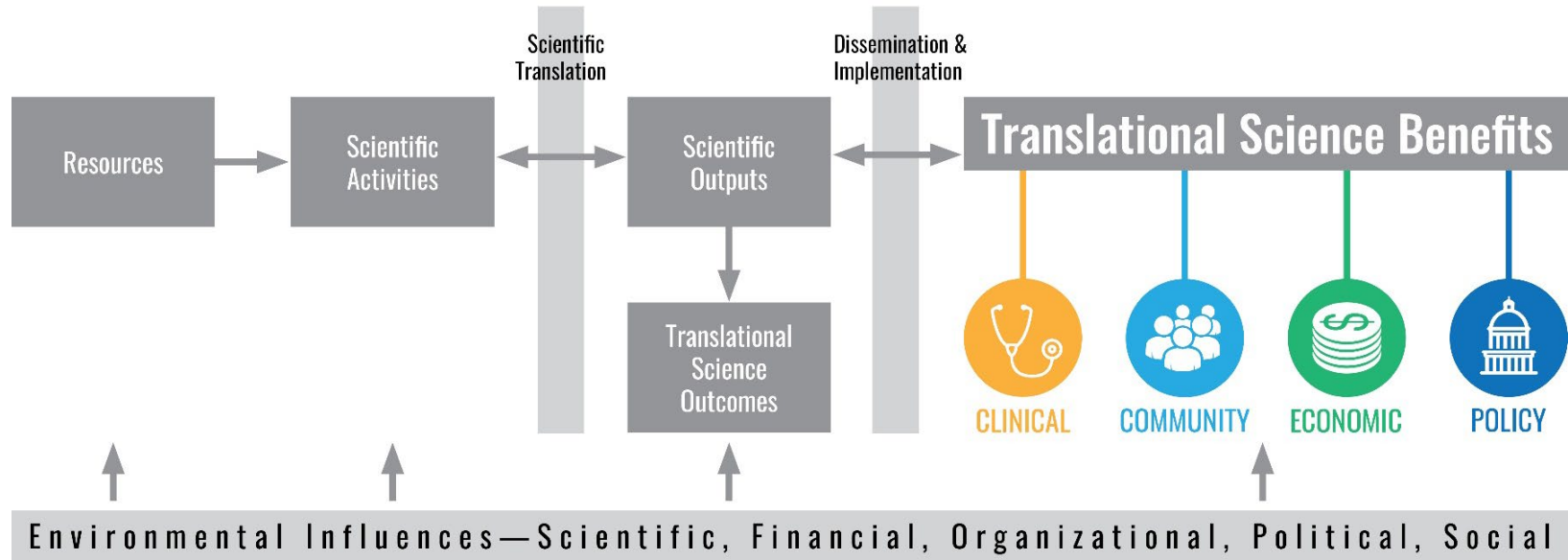


# Translating for Impact

A toolkit to apply the Translational Science  
Benefits Model to your work



# Translational pipeline – from science to benefits



5. Luke DA, Sarli CC, Suiter AM, Carothers BJ, Combs TB, Allen JL, Beers CE, Evanoff BA. The Translational Science Benefits Model: A new framework for assessing the health and societal benefits of clinical and translational sciences. *Clin Transl Sci* 11 77-84 (2018). (modified version)

# Indicators in each domain

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## CLINICAL

### Procedures & Guidelines

- Diagnostic procedures
- Investigative procedures
- Guidelines
- Therapeutic procedures

### Tools & Products

- Biological factors & products
- Biomedical technology
- Drugs
- Equipment & supplies
- Software technologies



## COMMUNITY

### Health Activities & Products

- Community health services
- Consumer software
- Health education resources

### Health Care Characteristics

- Health care accessibility
- Health care delivery
- Health care quality

### Health Promotion

- Disease prevention & reduction
- Life expectancy & quality of life
- Public health practices



## ECONOMIC

### Commercial Products

- License agreements
- Non-profit or commercial entities
- Patents

### Financial Savings & Benefits

- Cost effectiveness
- Cost savings
- Societal & financial cost of illness



## POLICY

### Advisory Activities

- Committee participation
- Expert testimony
- Scientific research reports

### Policies & Legislation

- Legislation
- Policies
- Standards

# New tools for assessing impact

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The Translating for Impact Toolkit helps apply the TSBM to the work of research projects, centers, and initiatives.



<https://translationalsciencebenefits.wustl.edu/toolkit/tools/>

# PLAN for impact


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- Road Map to Impact
- Benefits 2x2
- Stakeholder Mapper
- Team Manager



<https://translationalsciencebenefits.wustl.edu/toolkit/tools/>

# Get started with the Road Map to Impact

**plan**  
**Road Map to Impact**

**TRANSLATING for IMPACT**  
A TSBM toolkit to help you **plan**, **track** & **demonstrate** the benefits of your research

Your name

Date (mm/dd/yyyy)

Project name

Use this tool to:

- See the big picture of how to integrate impact throughout your research
- Begin to identify the translational benefits of your work
- Create a guiding Impact document that you can return to as needed

1

**CHALLENGE**

What problem does your research address?

2


**UNIQUE VALUE**

What do you propose to help solve the problem? Why is your approach innovative and unique?

3

**STAKEHOLDERS**




Who will benefit from your research? Which populations, stakeholders, or communities will be affected?

Review the  Stakeholder Mapper

4

**EQUITY**





How will your research advance equity and inclusion? What unintended consequences could result from your research, and how could you alter your approach?

Review the  Stakeholder Mapper,  Dissemination Planner &  Case Study Builder

5

**DISSEMINATION**


How will your research reach decision makers, practitioners, or communities?

Review the  Product Navigator,  Dissemination Planner,  Case Study Builder &  Impact Profile

6

**IMPACT METRICS**


Which specific quantitative or qualitative measures will you use to demonstrate impact?

Review the  Impact Tracker

7

**TEAM**


Which types of expertise will you need on your team to achieve your benefits? How will you promote diversity within your team?


Review the  Team Manager


8

**POTENTIAL BENEFITS**

What specific benefits do you expect from your research (e.g., biomedical technology, health education resources, patents, or standards)?


Review the  Benefits 2x2

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Adapted from The University College of Dublin Impact Planning Canvas



**COPRH Con**  
Colorado Pragmatic  
Research in Health  
Conference

# Benefits 2x2

- Identify benefits
- Prioritize benefits that are most realistic
- Create a plan to track benefits



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PILOT 02/21

Use this tool to:

- Identify your project benefits and when they might be realized
- Prioritize benefits that are most realistic
- Begin developing a plan to track benefits

**Completing the 2x2**

Plot your benefits on the map below. Ask yourself:

- What clinical, community, economic, or policy benefits do you expect from this research?
- What benefits can this project have for underserved populations (e.g., health, social, or economic)?
- How might your research have an impact down the road?

For a full list of potential benefits, see the [TSBM Benefits Checklist](#). Be sure to decide on a range for each time frame.

**TOOL TIP►**  
Choose a time frame that works for YOUR project. When do you expect to begin realizing benefits?

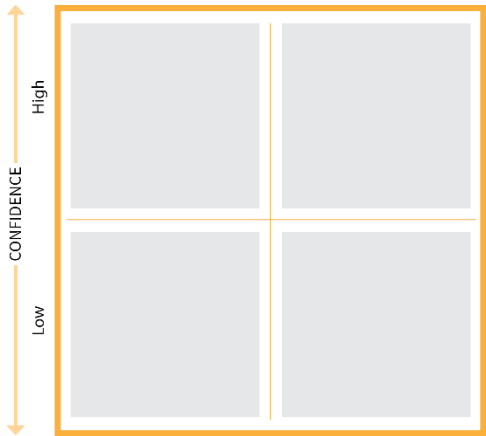
TIME FRAME

Shorter-term Longer-term

CONFIDENCE

High

Low





Designate a time frame for short-term and long-term:

Short-term:  
☐ months ☐ years

Long-term:  
☐ months ☐ years

**TOOL TIP►**  
Include both demonstrated and potential benefits

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# Stakeholder Mapper

- Identify champions or roadblocks to your work
- Plot stakeholders according to interest in and influence
- Create an engagement plan

PILOT 02/21

**Plot your stakeholders**  
Plot your stakeholders on the map below according to their **Interest** in your project and their power to **Influence** your project. Think about the benefits you've mapped (see [TSBM Benefits Checklist](#)) and their importance to potential stakeholders.


**Interest:** How likely they are to be affected by the project? How interested or concerned they are about the research?  
**Influence:** To what degree they can help enhance or hinder your research impact?

Low ——— INTEREST ———> High

<b>Satisfy</b> <b>High Influence, Low Interest</b> These stakeholders are very influential, but are not actively engaged or interested in your project. Focus on ways to keep them involved.	<b>Manage</b> <b>High Influence, High Interest</b> These stakeholders are very influential and very interested in your project. Focus most of your engagement efforts here to closely manage their involvement.
<b>Monitor</b> <b>Low Influence, Low Interest</b> These stakeholders are not very influential and are focused on other interests. Monitor their activity to stay up to date on changes in their interest or influence.	<b>Inform</b> <b>Low Influence, High Interest</b> These stakeholders are very interested in your project but are not very influential. Keep them informed of your activities and seek their expertise to inform your work.

↑  
INFLUENCE  
Low ——— High


**Highlight the impacted stakeholders**  
**Put an asterisk in front of those stakeholders who will be most directly impacted by the project.** What steps can you take to ensure these stakeholders are meaningfully engaged in the research process? *How often* and *in what ways* you can engage these stakeholders? What practical limitations might be keep them from participating (e.g., lack of access to technology or transportation, language barriers)?


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# Team Manager

- Identify skills and expertise needed to achieve impact
- Identify gaps in current team skills
- Form a diverse team committed to equity and inclusion



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PILOT 12/21

Use this tool to:

- Identify the skills, expertise, and other contributions needed to achieve impact
- Assess composition of your team, identify gaps, and assign roles
- Form a diverse team committed to equity and inclusion
- Review annually

Identify skills and expertise

To complete the table below, start by thinking about the skills and expertise needed on your team to demonstrate impact. Needed skill areas may vary depending on the benefits you are trying to achieve. Here are some skills and expertise you might need for each domain:

<b>Clinical</b> <ul style="list-style-type: none"><li>• Procedure development</li><li>• Guideline development</li><li>• Biomedical technology development</li><li>• Drug development</li><li>• Software development</li></ul>	<b>Community</b> <ul style="list-style-type: none"><li>• Community engagement</li><li>• Cultural competency</li><li>• Public health science</li><li>• Health care accessibility &amp; delivery</li><li>• Health education</li></ul>	<b>Economic</b> <ul style="list-style-type: none"><li>• Cost-effectiveness evaluation</li><li>• Licensing</li><li>• Filing patents</li></ul>	<b>Policy</b> <ul style="list-style-type: none"><li>• Advocacy</li><li>• Public speaking</li><li>• Hearing or judicial testimony</li><li>• Policy/legislation development &amp; implementation</li><li>• Report development</li></ul>
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Some skills may cross domains, such as dissemination or project coordination. Don't forget to include these in your list.


Map your team

Once you have a complete list of skills, identify people on your team who have these skills and list them in the Team Member column.


Add responsibilities

In the Responsibility column, describe what their activities will be in this skill area.

Skills/Expertise Needed to Demonstrate Impact	Team Member	Responsibility



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# TRACK progress toward indicators of impact

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- Impact Tracker



# Impact Tracker

- Keep track of broader impacts
- Quickly report progress
- Easily disseminate impact to stakeholders

[illegible]

# DEMONSTRATE impact to others

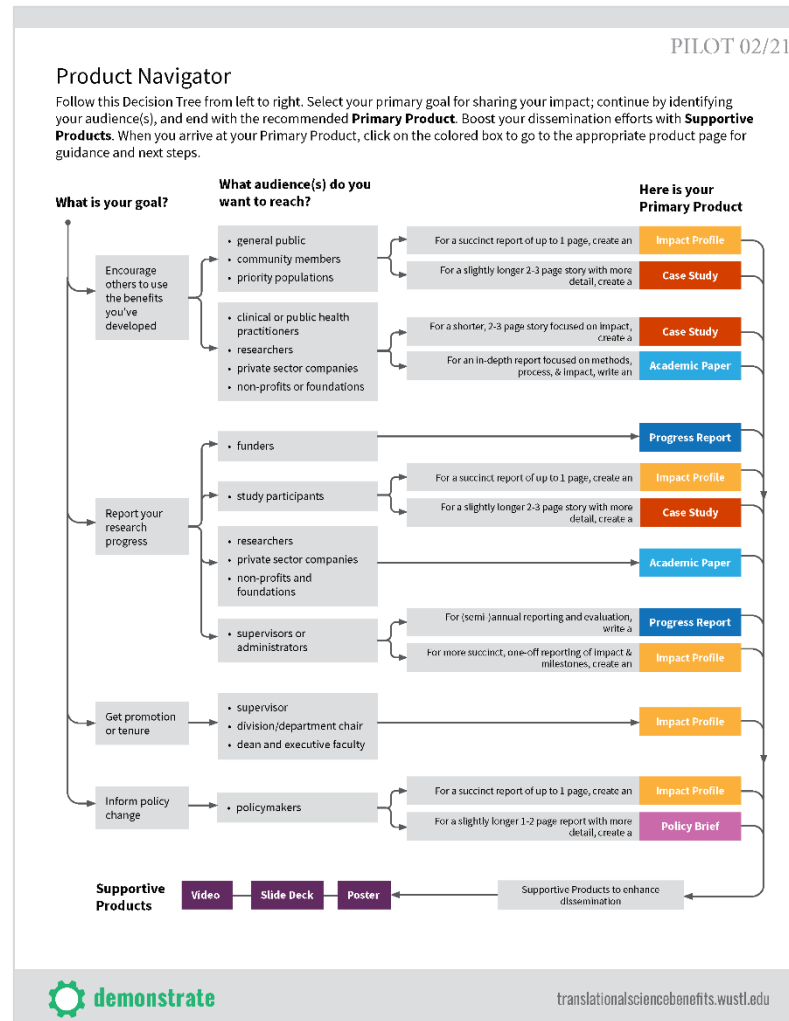
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- Product Navigator
- Case Study Builder
- Impact Profile
- Dissemination Planner



# Product Navigator

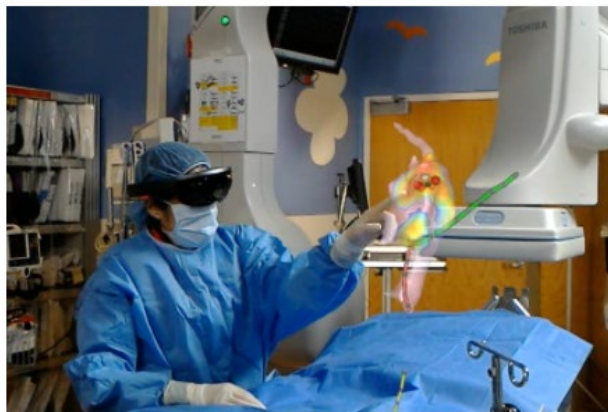
- Select the right product for your goal and audiences
- Develop your product



# TSBM impact case studies

## Using 3D Holograms to Treat Cardiac Arrhythmia

By [TSBM staff](#) • April 13, 2021



Jennifer Silva, MD, uses the holographic display during a cardiac ablation procedure. (Courtesy photo)

### Summary

One in 18 people (5 percent of the U.S. population) experience cardiac arrhythmia, a problem with the rate or rhythm of the heartbeat.<sup>1</sup> Arrhythmias can lead to complications such as stroke, fainting and death. Treatments include medicine, lifestyle changes, and a procedure called a catheter ablation. Catheter ablation uses radiofrequency heat energy to destroy a small area of heart tissue that is causing rapid and irregular heartbeats.<sup>2</sup> Typically, the physician has to mentally combine two 2D images of the heart displayed on different monitors to decide whether to remove tissue. This can cause a lot of mental fatigue.<sup>3</sup>



### Research Team

[Jonathan R. Silva, PhD](#) (primary contact), Associate Professor of Biomedical Engineering and [Jennifer N. Avari Silva, MD](#), Director of Pediatric Electrophysiology, Assistant Professor of

### Benefits

**Demonstrated** benefits are those that have been observed and are verifiable. **Potential** benefits are those logically expected with moderate to high confidence.

Improved accuracy of cardiac ablation procedures by providing a real-time, 3D holographic image of the patient's heart to help physician analyze heart tissue. **Demonstrated.**



[Therapeutic Procedures](#)

Developed CommandEP augmented reality (AR) software that creates a 3D digital image of the interior of the patient's heart and can be displayed using Microsoft's HoloLens headset. **Demonstrated.**



[Software Technologies](#)

Decrease need for repeat cardiac ablation procedures. **Potential.**



[Health Care Quality](#)

Founded [SentiAR](#), a start-up company to market and sell ÉLVIS throughout the U.S. **Demonstrated.**



[Non-Profit or Commercial Entities](#)

Patented the ÉLVIS system and method for creating a 3D holographic image of the patient's heart (U.S. Patent No: US10258426B2, April 2019.)<sup>6</sup> **Demonstrated.**



[Patents](#)

Reduced cardiac ablation procedure time by 30 minutes, freeing up hospital operating rooms for an additional 1-2 procedures per day, and may also reduce the need for the mapping technician role, generating additional cost savings for the hospital.<sup>7</sup> **Potential.**



[Cost Effectiveness](#)

<https://translationalsciencebenefits.wustl.edu/using-3d-holograms-to-treat-cardiac-arrhythmia/>

# TSBM impact case studies

## SOLACE: An Early Warning System for Adolescent Suicidality

By [Oregon Clinical & Translational Research Institute / Oregon CTSA](#) • April 1, 2020



This case study was submitted by the [Oregon Clinical & Translational Research Institute \(OCTRI\)](#), a CTSA at Oregon Health and Science University (OHSU).



### Summary

This research has community, economic, and policy implications. The framework for these implications was derived from the **Translational Science Benefits Model** created by the Institute of Clinical & Translational Sciences at Washington University in St. Louis.

The goal of this work is to create technology that uses physiological measures to help adolescents identify symptoms of stress dysregulation associated with worsening suicidal ideation (SI). This will allow early identification and interventions to prevent



Research Team

### Benefits

**Demonstrated** benefits are those that have been observed and are verifiable.

**Potential** benefits are those logically expected with moderate to high confidence.

Development of wearable device technology that measures physiological responses. **Demonstrated.**



[Biomedical Technology](#)

Development of wearable device technology that provides feedback to patients and families on patient physiological stress. **Demonstrated.**



[Software Technologies](#)

Development of new procedure whereby wearable device signals patients and families to act on stress levels. **Potential.**



[Diagnostic Procedures](#)

Data from wearable device can help prevent SI/SA, a public health issue. **Potential.**



[Consumer Software](#)

Support for access to mental healthcare by providing essential data direct to patient. **Potential.**



[Health Care Accessibility](#)

Reduction of SI/SA by notifying patients to implement coping skills in times of stress. **Potential.**





[Life Expectancy & Quality of Life](#)

<https://translationalsciencebenefits.wustl.edu/solace>

# Case Study Builder

- Describe *how* you realized your benefits and *why* they will make an impact
- Provide more detail about each benefit



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PILOT 11/21

Use this tool to:

- Tell your impact story to encourage community members or priority populations to use the benefits you developed
- Provide more detail for other researchers or practitioners interested in using the benefits in their own research or practice
- Report research progress back to study participants

Please refer to a [case study on the TSBM website](#) as you complete this template. The template references the major case study sections: Summary, Significance, and Benefits.

If you'd like us to consider featuring your case study on the [TSBM website](#), just complete this form and email as an attachment, along with any image files or additional materials, to [translationalsciencebenefits@wustl.edu](mailto:translationalsciencebenefits@wustl.edu).

**Case Study Title**  
Using plain, descriptive language, craft a title that captures your key impact (e.g., Using 3D Holograms to Treat Cardiac Arrhythmia)


**Research Team**  
Investigator/team names & affiliations

Community partner names & affiliations (if applicable)


Primary contact name Primary contact e-mail

**Research Project Title**

Project Start Date (mm/dd/yyyy) Project End Date (if applicable)



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- Summarize your impact
- Emphasize the most important benefits and metrics
- Layer dissemination



# Dissemination Planner

- Share your case study using the Dissemination Planner
- Identify channels, set a timeline for sharing, and define measures of success

 **demonstrate** >  
Dissemination Planner

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A TSBM toolkit to help you **plan**, **track** & **demonstrate** the benefits of your research

PILOT 02/21

Use this tool to:

- Develop a plan to share the product/s you identified in the *Product Navigator*.

Brief description of benefits or impact:

Audience(s):

Primary Product:

Supporting Products:

How will you get the word out?

Once your product is ready to disseminate, you'll want to share it (and share about it) through channels that will reach your audience/s. Think about the channels your audience uses most.

Select 3 channels to start with:

<input type="checkbox"/> Webinar	<input type="checkbox"/> News/press release
<input type="checkbox"/> Blog post	<input type="checkbox"/> e-Newsletter
<input type="checkbox"/> Podcast	<input type="checkbox"/> Conference presentation
<input type="checkbox"/> Social media—Facebook	<input type="checkbox"/> Direct email announcement
<input type="checkbox"/> Social media—Twitter	<input type="checkbox"/> Website
<input type="checkbox"/> Social media—LinkedIn	<input type="checkbox"/> TSBM website

**TOOL TIP >**  
Think about communication channels that are part of your networks, (e.g., your school, university, or departments your professional organizations; your social media accounts or blogs; and your email contact list).


Keep your communications brief and use plain language. Here are some resources to get you started:


- [Promote Your Research: UCD guide on promoting your research for greatest impact](#)
- [CDC Plain Language Resources](#)

Who on your team will be responsible?

This could be one person or a team of people, depending on your dissemination method(s). For example, one person could be responsible for crafting emails while another person is creating an infographic.

Team Member: <input type="text"/>	Role: <input type="text"/>
Team Member: <input type="text"/>	Role: <input type="text"/>
Team Member: <input type="text"/>	Role: <input type="text"/>

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# Using the toolkit to demonstrate the impact of D&I research



## Developing Communication Strategies to Reduce Addiction Stigma

By [Implementation Research Institute \(IRI\)](#) and [TSBM](#)  
March 1, 2022

Implementing messaging campaigns to reduce addiction stigma and increase support for evidence-based interventions



## Increasing Access to Preventive Telehealth Services for Women Veterans

By [Implementation Research Institute \(IRI\)](#) and [TSBM](#)  
March 1, 2022

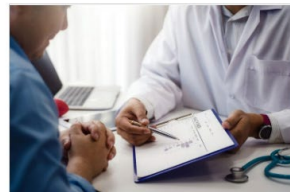
Implementing EMPOWER 2.0, a gender-specific telehealth care intervention for women



## Preventing Youth Suicide and Injury by Implementing a Secure Firearm Storage Program in Pediatric Primary Care

By [Implementation Research Institute \(IRI\)](#) and [TSBM](#)  
March 1, 2022

Counseling parents on secure firearm storage during pediatric visits



## Improving the Physical Health of Adults with Serious Mental Illness (SMI)

By [Implementation Research Institute \(IRI\)](#) and [TSBM](#)  
March 1, 2022

Implementing interventions to improve the physical health of racial and ethnic minority adults struggling with mental illness



## Providing Integrated Support to Prevent and Treat Parental Substance Use

By [Implementation Research Institute \(IRI\)](#) and [TSBM](#)  
March 1, 2022

Implementing FAIR, an intensive treatment program for parents of children in the child welfare system



## Disseminating Evidence about Adverse Childhood Experiences (ACEs)

By [Implementation Research Institute \(IRI\)](#) and [TSBM](#)  
March 1, 2022

Communicating about ACEs and behavioral health to policymakers and the public

# Using the toolkit to demonstrate the impact of D&I research

## Preventing and Treating Parental Substance Use with the FAIR Program

Translational Science Benefits Model  
**IMPACT PROFILE**

The **Families Actively Improving Relationships (FAIR)** program provided services to parents involved with the child welfare system who were living with an opioid and/or methamphetamine use disorder. FAIR helps families reunite and remain together, increasing opportunities for healthy child development in a stable home environment.

### The Impact

The FAIR program resulted in clinical, community, economic, and policy benefits.



FAIR reduced opioid and methamphetamine use, improved parenting skills, enhanced parental mental health, and increased housing and employment stability. Parents were also more engaged in the program compared to traditional substance use outpatient treatments. By helping families remain together and successfully reunite, FAIR increases opportunities for healthy child development in a stable home environment and could reduce the economic burden caused by the strained child welfare system.

### RESEARCH HIGHLIGHTS

The FAIR program resulted in:

- Predicted parental methamphetamine use decreased from 48% to **9%** after 8 months in the program
- Predicted parental opioid use decreased from 16% to **1%** after 12 months in the program
- FAIR treatment cost about **\$9,000** for 9 months, compared to \$14,000 to \$27,000 for just 30 days of inpatient addiction treatment.

### The Challenge

As dual opioid and methamphetamine epidemics rise across the United States, more children are entering into foster care due to parental substance abuse and fewer are returning home. Despite these trends, programs to support parents are limited.

### The Approach

Through community clinics and local health departments, FAIR provides the following to parents involved with the child welfare system who are living with an opioid and/or methamphetamine use disorder:

- Integrated substance use and mental health treatment
- Case management
- Parenting skill building

### Key TSBM Impacts

-  **CLINICAL** Provided mental health and substance use treatment, parenting skill development, and case management
-  **COMMUNITY** Increased engagement between parents and clinicians, improving the quality evidence-based practices
-  **COMMUNITY** Decreased substance use and improved mental health among parents
-  **ECONOMIC** Will reduce healthcare costs
-  **POLICY** FAIR was featured as an example program by the Children's Bureau in the Department of Health and Human Services

### The Team:

Lisa Saldana, PhD, Jason Chapman, PhD, Gracelyn Cruden, PhD, Ryan Singh, PhD, Mark Campbell, MS, Courtenay Padgett, MS, Zoe Alley, PhD, Jeff Peterson, PhD, Holle Schaper, MS, Arwen Maas-DeSpain, LMFT, Mary Laws, CADC, Caroline Dennis, MPH, Katherine Barros, BA, *Oregon Social Learning Center*; John Radich, *Oregon Department of Human Services*

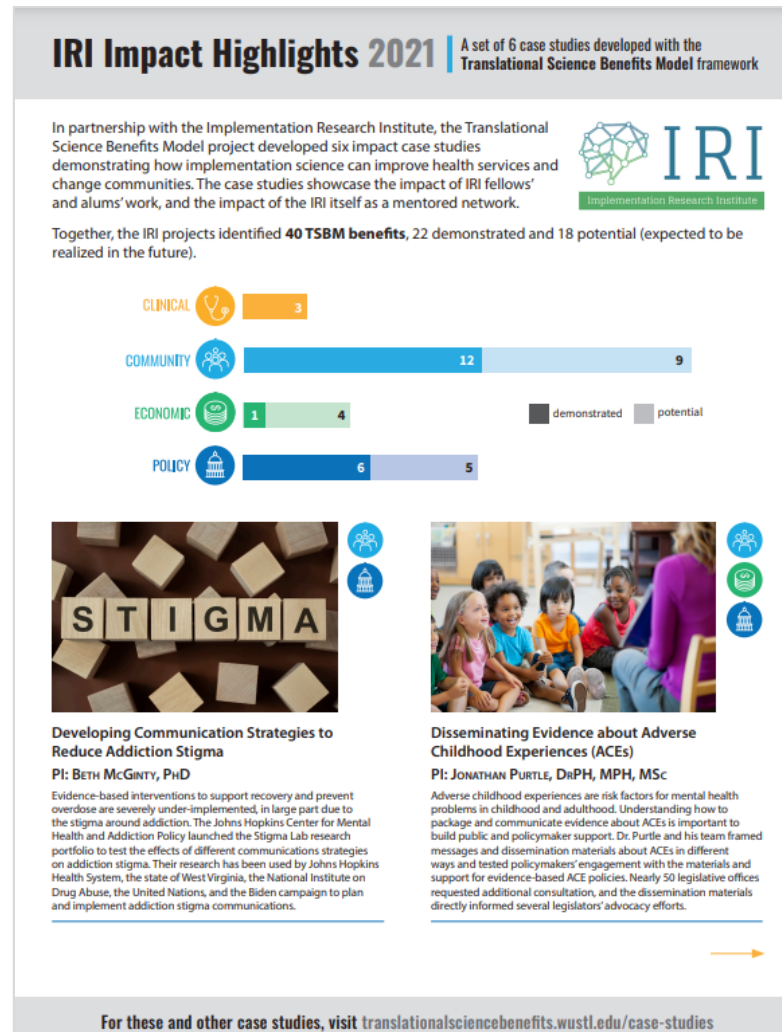
### Find out more:

[Visit the full case study](#)

### Contact:

Lisa Saldana, PhD, [lisas@oslc.org](mailto:lisas@oslc.org)  
Senior Research Scientist  
Oregon Social Learning Center

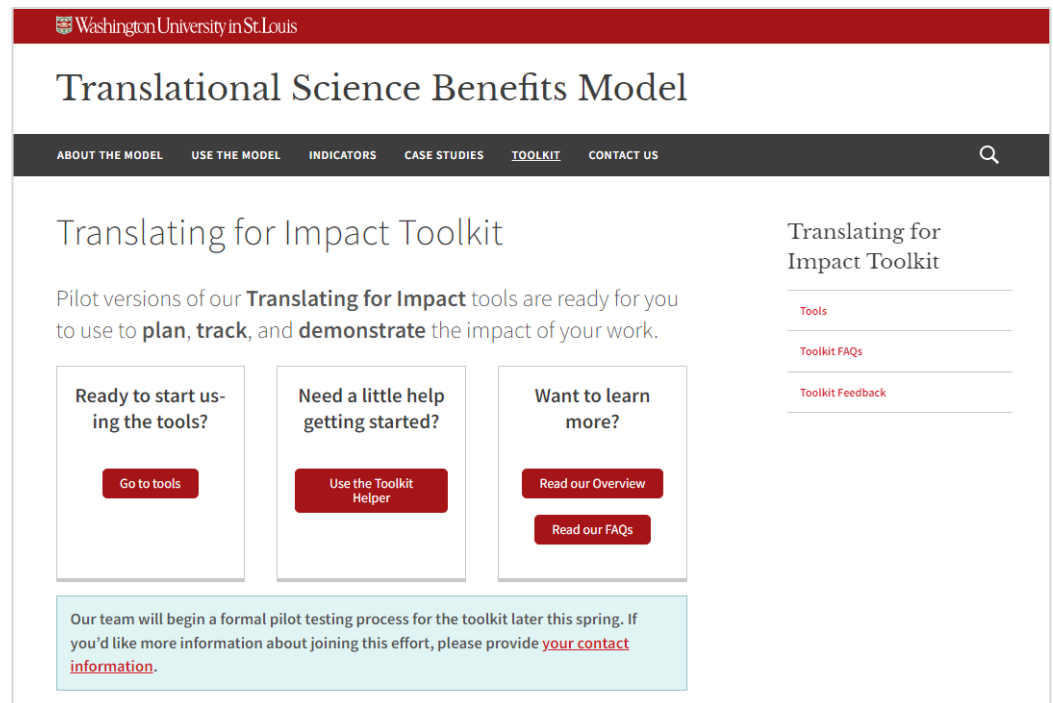
# Using the toolkit to demonstrate the impact of D&I research



<https://translationalsciencebenefits.wustl.edu/partners/>

# How to get started

- Start with the Road Map to Impact
- Select additional tools based on your research phase and goals
- Let us know if you are interested in a workshop or pilot testing



<https://translationalsciencebenefits.wustl.edu/toolkit>

# Thank you

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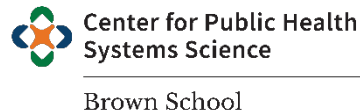
## Contact

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## Learn more

[translationalsciencebenefits.wustl.edu](http://translationalsciencebenefits.wustl.edu)



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