

The Translational Science Benefits Model

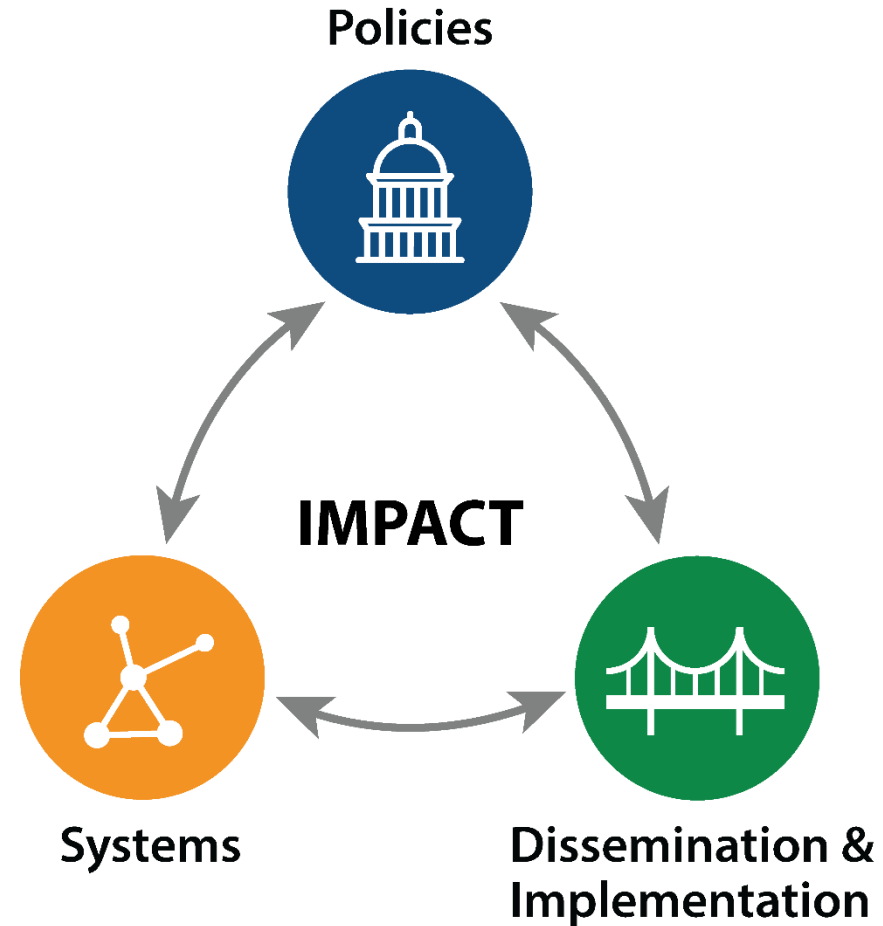
Sustainable and equitable impact on health through pragmatic research

Douglas A. Luke | May 23, 2022



Goals

- Why is impact important?
- The Translational Science Benefits Model
 - History
 - Domains
 - Tools
- Applications of TSBM
 - Training
 - Evaluation
 - Dissemination
- Implications & future work



<https://cphss.wustl.edu/>



Working on impact: Our TSBM team



Douglas Luke



Stephanie Andersen



Todd Combs



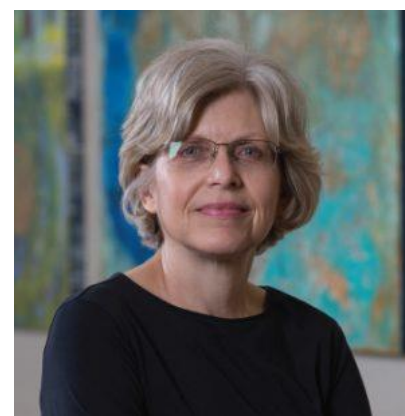
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Laura Brossart



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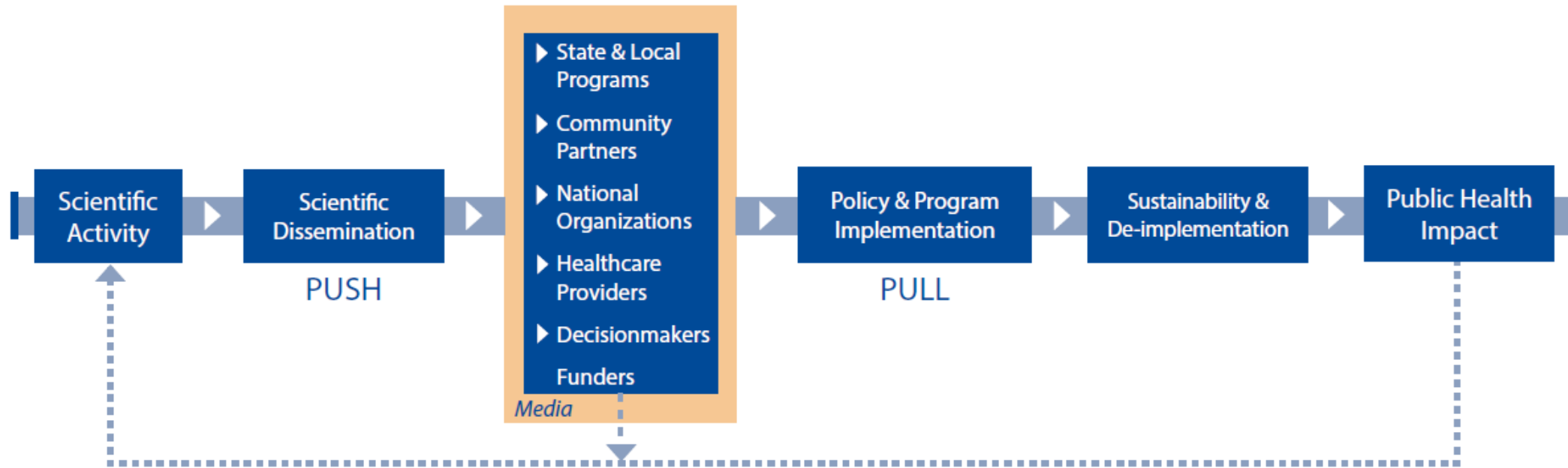


Amy Suiter

One of these is not like the other...

- Research impact definitions
 - **NIH:** The likelihood for the project to exert a sustained, powerful influence on the research field(s) involved.
 - **Research England:** An effect on, change or benefit to the economy, society, culture, public policy or services, health, the environment or quality of life beyond academia.
 - **NSF:** The potential [for your research] to benefit society and contribute to the achievement of desired society outcomes.
 - **Australian Research Council:** The contribution that research makes to the economy, society, environment or culture, beyond the contribution to academic research.

Scientific Discovery to Public Health Impact Pipeline



Source: Farrelly et al.³

Farrelly, et al. (2017). Taking stock of tobacco control program and policy science and impact in the United States. *J Addict Behav Ther*, 1(2): 8.



History



from counting widgets

- Publications (# accepted, impact factor)
- Grants (# submitted, \$\$ amounts)

to identifying what communities, policy makers and funders care about

- Saving lives
- Improving health
- Saving money





to assessing impact

- Identifying the ways that science benefits society beyond science itself
- Talking about the tangible benefits


The Translational Science Benefits Model

- A new approach for demonstrating the impact of science in the broader community
- Focused on research outcomes that are relevant for:
 - The public
 - Policymakers
 - Organizational leadership



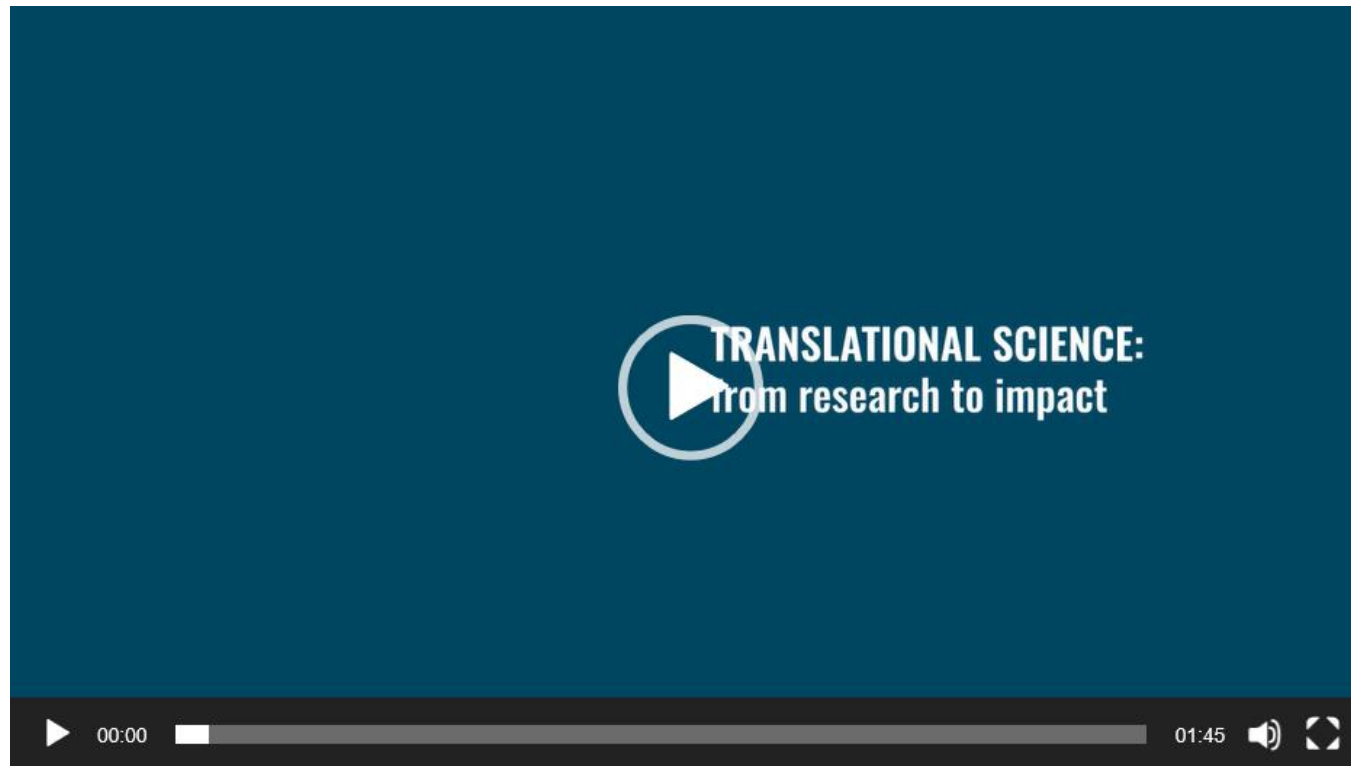
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The Translational Science Benefits Model: A New Framework for Assessing the Health and Societal Benefits of Clinical and Translational Sciences

Douglas A. Luke , Cathy C. Sarli, Amy M. Suiter, Bobbi J. Carothers, Todd B. Combs, Jae L. Allen, Courtney E. Beers, Bradley A. Evanoff

First published: 08 September 2017 | <https://doi.org/10.1111/cts.12495> | Citations: 6

From research to impact



<https://cphss.wustl.edu/tsbm-video/>



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Methods

- Starting materials
 - Becker Model for Assessment of Research Impact¹
 - Translational Research Impact Scale²
 - Snowball Metrics³
- Wound up with 240 indicators
- Reduced with modified Delphi method⁴



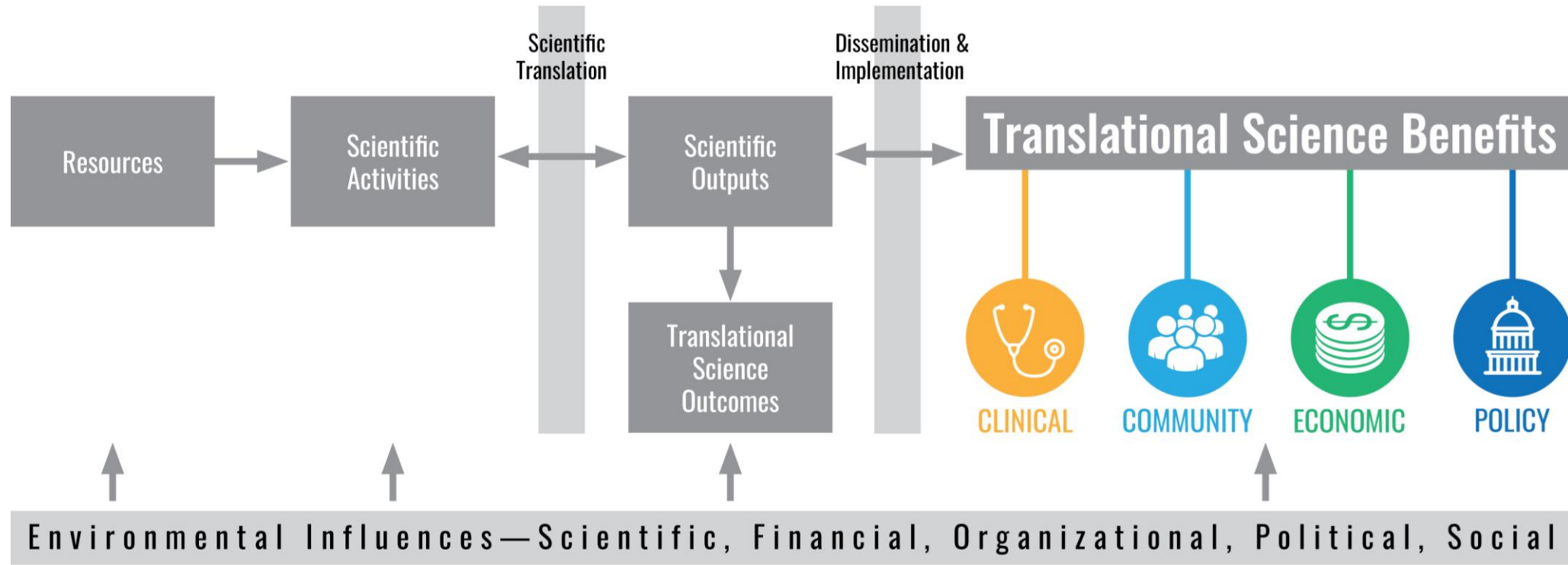
1. Sarli CC, Dubinsky EK & Holmes KL. Beyond citation analysis: A model for assessment of research impact. *J Med Libr Assoc* 98, 17-23 (2010).

2. Dembe AE, Lynch MS, Gugiu PC & Jackson RD. The translational research impact scale: Development, construct validity, and reliability testing. *Eval Health Prof* 37, 50-70 (2014).

3. Colledge L. *Snowball Metrics Recipe Book*. 2nd ed. (2014). Available from: https://www.snowballmetrics.com/wpcontent/uploads/snowball-recipe-book_HR.pdf

4. Dalkey N. The Delphi method: an experimental study of group opinion. *Futures* 1, 408-426 (1969).

Translational pipeline – from science to benefits



Indicators in each domain



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

How to use TSBM

- Culture change and agenda setting
- Monitor and evaluate research impact
 - Individual scientist
 - Research program (over time)
 - Impact profiles for research groups (centers, institutes)
 - Guide funding and strategic planning
- Training and workforce development




New tools for assessing impact

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



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

Example: 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

PILOT 12/21




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)?

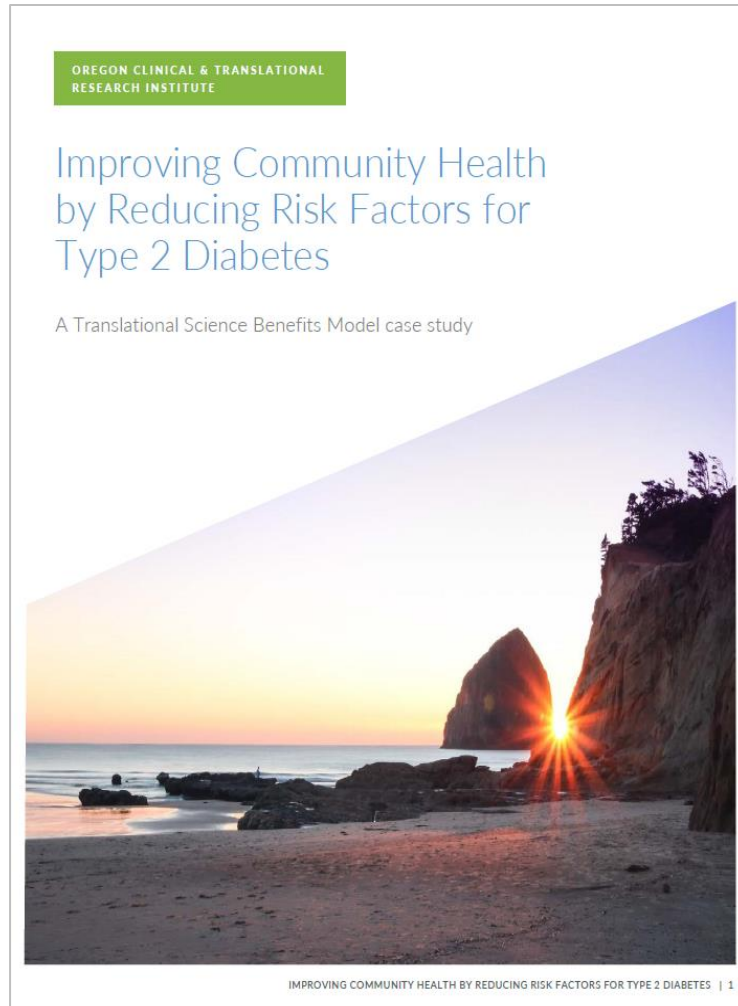
Review the  Benefits 2x2

 Institute of Clinical and Translational Sciences  Washington University in St. Louis

Adapted from The University College of Dublin Impact Planning Canvas

translationalsciencebenefits.wustl.edu

Case studies show how translational science can benefit health and communities



Benefits

● Demonstrated Benefit ● Potential Benefit

Benefit	Domain	Indicator
Increase screening rates to identify diabetes risk factors, including social determinants of health.	● COMMUNITY	Community Health Services
Provide physical activity opportunities to youth and adults.	● COMMUNITY	Disease Prevention & Reduction
Increase access to healthy eating options.	● COMMUNITY	Disease Prevention & Reduction
Reduce the number of people with pre-diabetes and diabetes risk factors.	● COMMUNITY	Life Expectancy & Quality of Life
Reduce social and economic costs related to pre-diabetes and unhealthy lifestyles.	● ECONOMIC	Societal & Financial Cost of Illness
Inform local stakeholders through participation in advisory boards.	● POLICY	Committee Participation
Disseminate project progress at local conferences.	● POLICY	Scientific Research Reports

Demonstrating impact of the Gun Violence Initiative with TSBM



COMMUNITY



8



POLICY



3



CLINICAL



1



ECONOMIC

Demonstrating impact of the Gun Violence Initiative with TSBM

Trains providers to help patients at risk for suicide and their families reduce access to lethal means. *Demonstrated.*



Guidelines

Trains bystanders in trauma first aid to reduce preventable deaths due to bleeding out. *Demonstrated.*



Health education resources

Presented research symposiums, hosted a suicide prevention summit, and launched the first-ever course on gun violence as a public health issue. *Demonstrated.*



Health education resources

Offers capacity-building workshops for neighborhood residents so they can organize and lead their own prevention efforts. *Demonstrated.*



Health education resources

Offers one-on-one counseling and resources to victims of violence, to help them and their families cope with trauma and break the cycle of violence. *Demonstrated.*



Community health services

Created a streamlined referral process so that victims of nonfatal shootings can call a centralized number to connect to services. *Demonstrated.*



Health care delivery

Demonstrating impact of the Gun Violence Initiative with TSBM

Reduced risky behaviors through the Life Outside Violence counseling program. *Demonstrated.*



Disease prevention and reduction

Reduced recidivism and perceived stress through Life Outside Violence. *Demonstrated.*



Life expectancy & quality of life

Launched the Violence Prevention Commission, which supports coordination between education, healthcare, law enforcement and local government. *Demonstrated.*



Public health practices

Holds committee membership in the Downtown Engagement & Public Safety Initiative which focuses on addressing crime and violence in downtown St. Louis. *Demonstrated.*



Committee participation

Submitted expert testimony to the St. Louis Crime Prevention Committee on legislation to provide mental-health check-ins to police officers. *Demonstrated.*



Expert testimony

Submitted a joint stakeholder report on gun violence to the U.N. Human Rights Council as part of the review of the U.S. government's human rights record. *Demonstrated.*



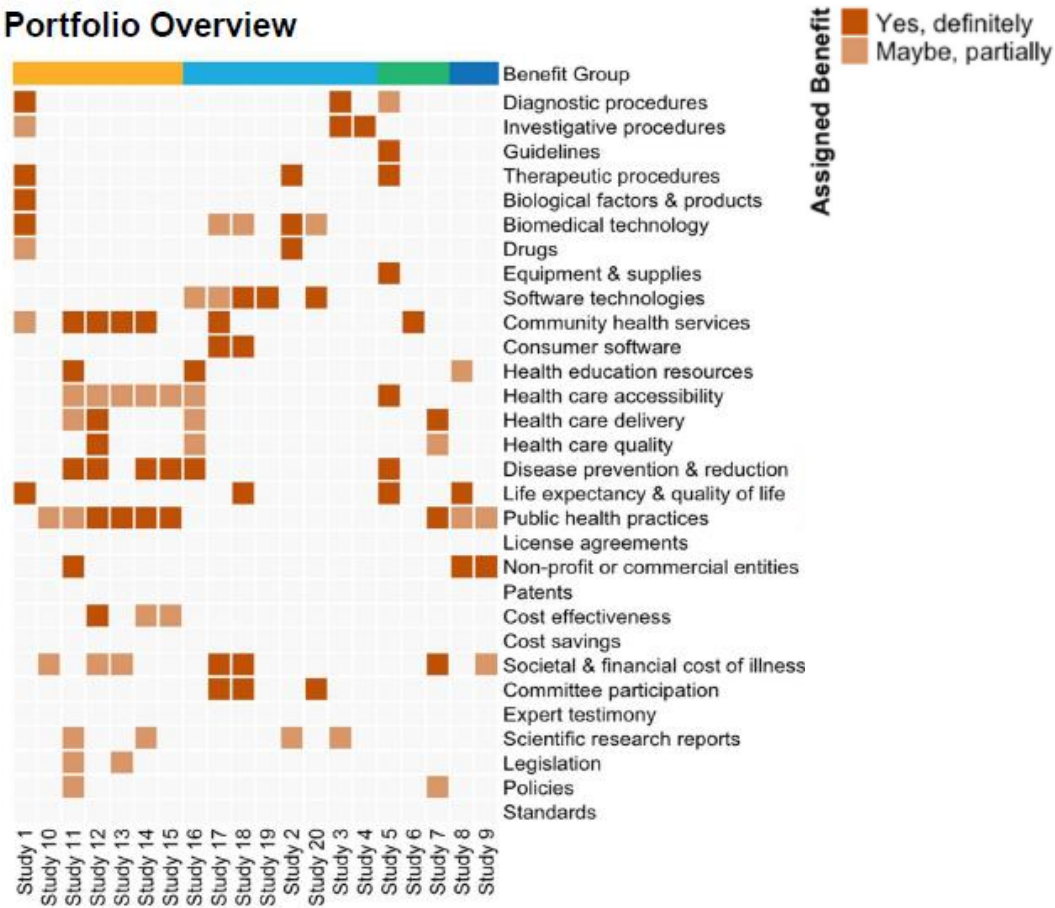
Scientific research reports

TSBM can also be used for portfolio evaluation

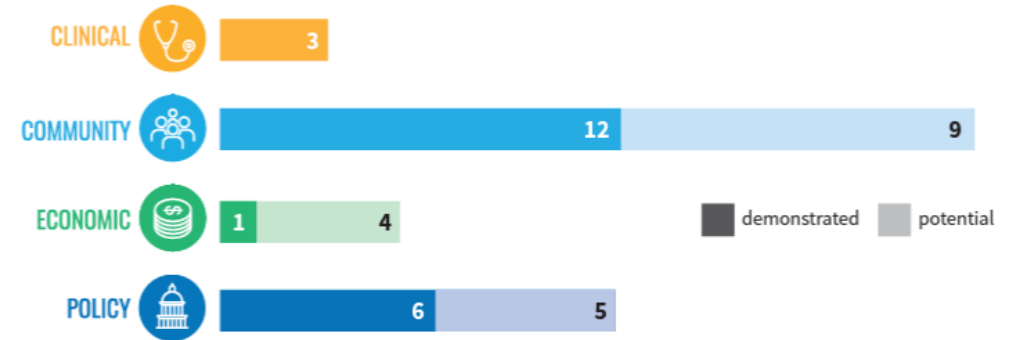
Evaluating the impact of the Oregon
Clinical and Translational Research Institute
(NCATS)

Evaluating impact of the
Implementation Research Institute
(NIMH, NIDA, and VA; Proctor)

3. Portfolio Overview



Together, the IRI projects identified **40 TSBM benefits**, 22 demonstrated and 18 potential (expected to be realized in the future).



TSBM is having an impact

EVALUATION

CTSAs around the country using as evaluation framework



STRATEGIC PLANNING

Growing and strengthening public health at WashU



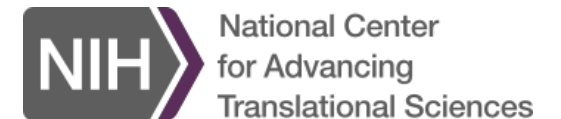
TRAINING

Training young scientists to design for impact

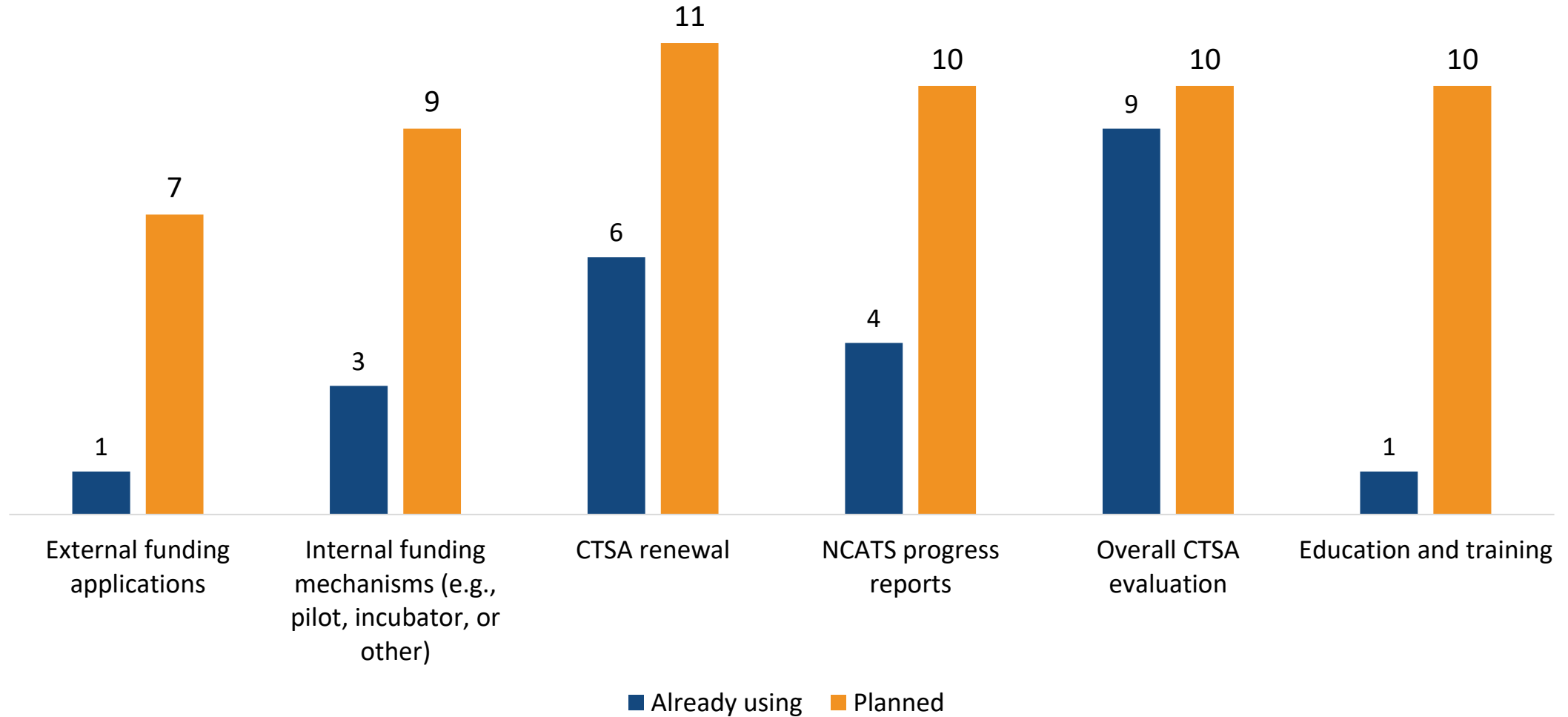


DISSEMINATION

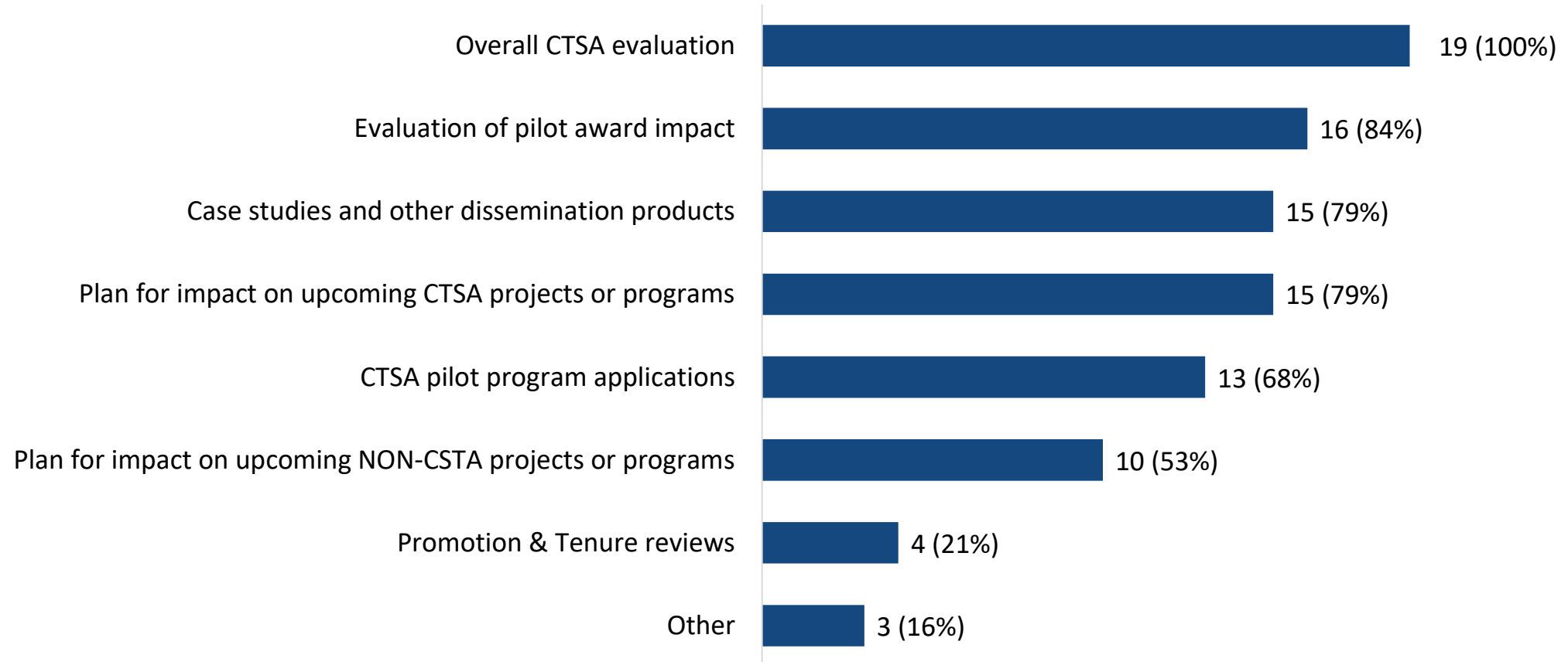
Federal funding agencies communicating the importance of impact



How CTSAs are using the TSBM



What CTSA's want to know about the TSBM



Designing public health with impact in mind

Hiring	Broaden hiring to include potential for future impact
Evaluation - individuals	Include explicit impact criteria into promotion & tenure standards and procedures
Evaluation – groups, institution	Embed impact evaluation into administrative monitoring, research group evaluations
Training	Support training efforts for faculty, students, and staff to encourage impact orientation
Partnerships	Enhance community/stakeholder partnerships by focusing on what is important to them
Culture	Combining academic excellence with societal impacts

Website tour

 Washington University in St. Louis

Translational Science Benefits Model

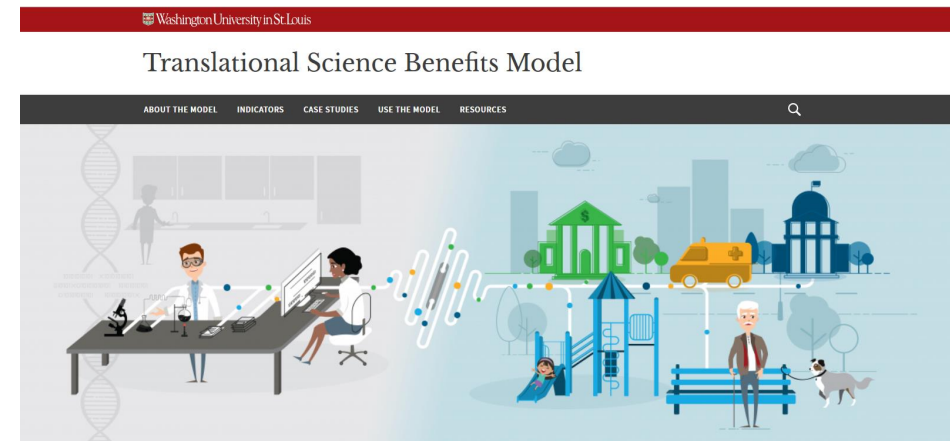
ABOUT THE MODEL INDICATORS CASE STUDIES USE THE MODEL RESOURCES



<https://translationalsciencebenefits.wustl.edu>

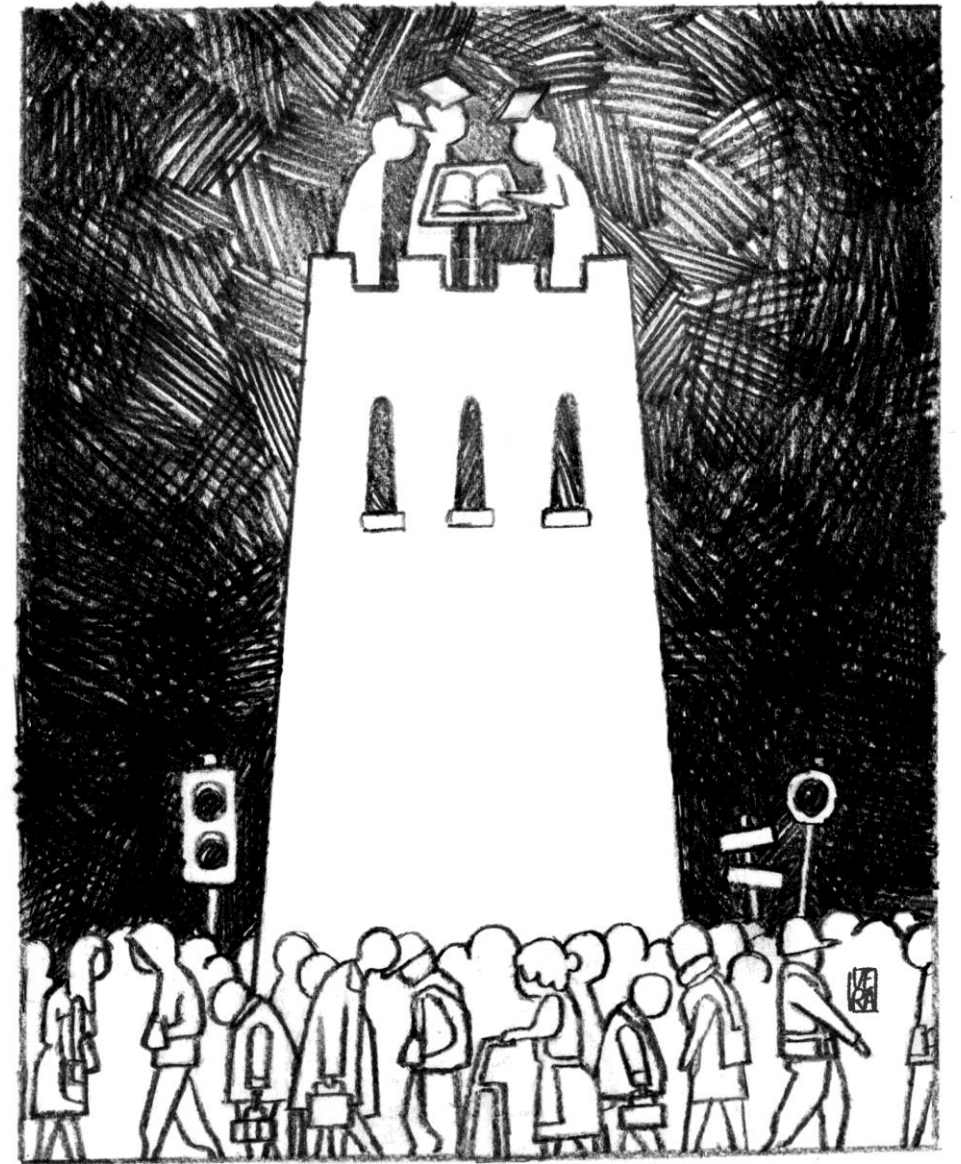
Next steps

- Continue disseminating TSBM
- Pilot test training and evaluation tools
- Strengthen integration of health disparities and health equity into the model
- Work with partners (research groups, universities, funders) to support their impact work



The point...

Over the last decade, universities have faced steady criticism for elitist practices such as political bias, hoarding wealthy endowments, and providing insufficient economic returns for students. In light of this, institutions that turn their attention to serving the *public good* may be best poised to thrive and deliver lasting value.



LEARN MORE AT:
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