COPRH Con
Colorado Pragmatic Research in Health Conference

Disseminating, Scaling, and Sustaining Pragmatic Research:

Improving Health in Diverse Settings

VIRTUAL INTERNATIONAL CONFERENCE

May 23-25, 2022
10am-3pm MT

Conference Program

Featured Distinguished Speakers

Kristen Hassmiller Lich, PhD
University of North Carolina at Chapel Hill

Douglas Luke, PhD
Washington Universtiy in St. Louis

Rachel Shelton, ScD, MPH
Columbia University

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Welcome to COPRH Con 2022
Disseminating, Scaling, and Sustaining Pragmatic Research Improving Health in Diverse Settings

We are delighted you are able to join us for the third Colorado Pragmatic Research in Health Conference (COPRH Con).

There are a variety of ways of conceptualizing pragmatic research – from pragmatic clinical trials to drug trials focused on real-world evidence to dissemination and implementation research. For COPRH Con, we conceptualize pragmatic research as research designed to be conducted in the real world using usual care settings, resources, and structures.

Pragmatic research is intended to help support a decision by service and care providers – and policy makers, patients, and other stakeholders – on whether and in what context to adopt, deliver, or make use of an intervention. COPRH Con brings both established and emerging pragmatic methods, measures, and models, many of which come from the blossoming field of dissemination and implementation (or 'D&I') science. These methods help to ensure that pragmatic research is not seen as messy or poorly done research, but rather relevant AND rigorous.

Of great importance is the fact that conducting research in diverse, real world settings helps to ensure that our evidence can be applied successfully across different populations and contexts – which is critical for promoting health equity.

COPRH Con is a three-year conference series funded by the Agency for Healthcare Research and Quality (R13HS027526). The aims of the conference series are to:

- Describe and promote **use of pragmatic research methods, models, and measures** to support translation of evidence-based practices, policies, and guidelines to clinical, community, and public health settings.
- Build capacity for pragmatic research through use of web-based **tools, templates, and guidance materials** for application of pragmatic research methods.
- Foster team science in use and testing of pragmatic research methods through creation and support of a **virtual learning community**.

The COPRH Con series follows the Evidence Life Cycle (Figure 1). Year 1 focused on Phase – pragmatic research conceptualization, planning and getting funded. Year 2 focused on Phase II – conduct and implementation of pragmatic research, with topics such as accessing learning health system infrastructure, adaptation, ethics, and human subjects research considerations. Year 3 will focus on Phases III and IV – with topics such as dissemination, sustainment, commercialization, and de-implementation.

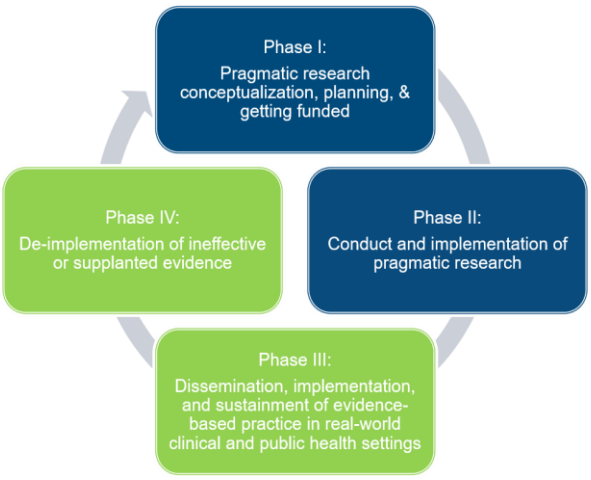


Figure 1. The COPRH Con EvidenceLife Cycle

Conference Planning Committee

Bethany Kwan, PhD, MSPH (Conference Chair)

Russell Glasgow, PhD

Allison Kempe, MD, MPH

Amy Huebschmann, MD, MPH, FACP

Borsika Rabin, PhD, MPH, PharmD

Elizabeth Juarez-Colunga, PhD

Demetria McNeal, PhD, MBA

Sponsors:

The University of Colorado School of Medicine's Adult and Child Consortium for Health Outcomes Research and Delivery Science (ACCORDS) and the Colorado Clinical and Translational Sciences Institute (CCTSI)

DAY ONE: MAY 23, 2022

TIME MT	TITLE	SPEAKERS	TYPE
9:00-10:00 AM [Ed2 North Room 1102]	*Pre-Conference Special*: Welcome and Orientation for Patient and Community Stakeholder Representatives	*Bethany Kwan, PhD, MSPH*	Live*
10:00 - 10:15 AM [Ed2 North Room 1102]	Conference Welcome and Overview	*Allison Kempe, MD, MPH* *Bethany Kwan, PhD, MSPH*	Live*
10:15 - 11:00 AM [Ed2 North Room 1102]	Making a Sustainable and Equitable Impact on Health through Pragmatic Research: The Translational Sciences Benefits Model	*Doug Luke, PhD*	Keynote Session Live
10 Minute Break			
11:10 - 11:50 PM [Ed2 North Room 1102]	Impact is in the Eye of the Beholder: What Outcomes Matter to Your Stakeholders?	*Moderator: Borsika Rabin, PhD* *Paul Watson, MSHS;* *Bill Oswald, PhD;* *Nicole Stadnick, PhD, MPH*	Panel Live
10 Minute Break			
12:00 - 12:45 PM [Ed2 North Room 1102]	How to Disseminate Your Science: Tips and Best Practices from the CCTSI Dissemination Consult Service	*Heather Gilmartin, PhD, NP* *Robert Thompson*	Networking Lunch Live*
12:00 - 12:45 PM [Ed2 North Room 1107]	A Beginner's Guide to Pragmatic Research - a Tour of the COPRH Con Archives and Other Resources	*Demetria McNeal, PhD, MBA, CPTD*	Networking Lunch Live*
15 Minute Break			
1:00 - 1:45 PM [Ed2 North Room 1102]	Principles, Methods, and Systems for Designing for Dissemination, Sustainability, and Equity	*Bethany Kwan, PhD, MSPH*	Plenary Live*
15 Minute Break			
Track 1: Dissemination Strategies and Methods			
2:00 - 2:35 PM [Ed2 North Room 1102]	Dissemination to Policymakers	*Jonathan Purtle, DrPH, MSc*	Concurrent Sessions Live
2:40 - 3:15 PM [Ed2 North Room 1102]	Using Stakeholder Engagement to Disseminate Rapid and Responsive Messages	*Jenna Reno, PhD* *Hillary Lum, MD, PhD* *Mika Hamer, MPH*	Concurrent Session Live*
Track 2: Assessing Impact in Pragmatic Research: Impact Frameworks and Measures			
2:00 - 2:35 PM [Ed2 North Room 1107]	Translating for Impact: A Toolkit to Apply the Translational Science Benefits Model to Your Work	*Doug Luke, PhD* *Stephanie Andersen, MPA*	Concurrent Sessions Live
2:40 - 3:15 PM [Ed2 North Room 1107]	Pragmatic Measures and Methods: Approaches Based on the PRISM and RE-AIM Framework	*Russ Glasgow, PhD* *Meredith Fort, PhD*	Concurrent Sessions Live
3:15 PM	**END OF DAY 1** ****CONTINUE TO NEXT PAGE FOR DAY 2****		

Asterisk (*) represents a live, in-person presenter

DAY TWO: MAY 24, 2022

TIME MT	TITLE	SPEAKERS	TYPE
10:00 - 10:45 AM [Ed2 North Room 1102]	Making Complexity Pragmatic Again: Practical Steps to Systems Mapping and Modeling	*Kristen Hassmiller Lich, PhD*	Keynote Live
15 Minute Break			
Track 1: Participatory and Qualitative Approaches in Systems Science			
11:00 - 11:35 PM [Ed2 North Room 1102]	Using Systems Diagrams to Conceptualize Context and Interventions in Pragmatic Research	*Erin Kenzie, PhD*	Concurrent Sessions Recorded
11:40 - 12:15 PM [Ed2 North Room 1102]	Designing participatory modeling & causal mapping projects: Approaches & Tools	*Ellis Ballard, MPH, MSW*	Concurrent Sessions Live
Track 2: Simulations and Data Analytics in Systems Science			
11:00 - 11:35 PM [Ed2 North Room 1107]	The Use of System Dynamics Modeling and Simulation to Address Complex Public Health Challenges	*Nasim Sabounchi, PhD*	Concurrent Sessions Live
11:40 - 12:15 PM [Ed2 North Room 1107]	Participatory Research in Low-Resource Settings: From Conceptual Modeling to Data-Driven Simulations	*Tak Igusa, PhD*	Concurrent Sessions Live
15 Minute Break			
12:30 - 1:15 PM [Ed2 North Room 1102]	Best of COPRH Con Abstract Symposium: Designing for Impact to Improve Health Equity	*Moderator: Mónica Pérez Jolles, PhD*	Symposium
15 Minute Break			
1:30 - 2:15 PM [Ed2 North Room 1102]	Advancing De-implementation Research in Health Care and Public Health: Current Approaches and Future Directions	*Wynne Norton, PhD*	Plenary Live
15 Minute Break			
Track 1: De-implementation Methods and Examples			
2:25 - 3:00 PM [Ed2 North Room 1102]	De-Implementing Low-Value Care: Considerations for Assessing Outcomes and for Understanding the Interplay with Health Equity	*Christian Helfrich, PhD Amy Tyler, MD*	Concurrent Sessions Live
2:25 - 3:00 PM [Ed2 North Room 1107]	Choosing What to De-Implement: Examples from Clinical Practice	*Lesly Dossett, MD, MPH*	Concurrent Sessions Live
3:00 PM	**END OF DAY 2** ****CONTINUE TO NEXT PAGE FOR DAY 3****		

Asterisk (*) represents a live, in-person presenter

DAY THREE: MAY 25, 2022

TIME MT	TITLE	SPEAKERS	TYPE
10:00 - 10:40 AM [Ed2 North Room 1102]	Advancing Research on Sustainability and Health Equity in Implementation Science	*Rachel Shelton, ScD, MPH*	Keynote Live
10 Minute Break			
Track 1: Systems and Infrastructure for Scale-Up and Sustainability			
10:50 - 11:25 AM [Ed2 North Room 1102]	Scaling Up and Out: Increasing the Uptake of Built Environment Approaches in Community Settings.	*Laura Balis, PhD*	Concurrent Sessions Live
11:30 - 12:05 PM [Ed2 North Room 1102]	A Systems Approach to Scale-up for Population Health Improvement	*Harriet Koorts, PhD*	Concurrent Sessions Live*
Track 2: Scale up and Sustainment methods and measures			
10:50 - 11:25 AM [Ed2 North Room 1107]	Pragmatic Measurement of Sustainment	*Joanna Moullin, PhD; Nicole Stadnick, PhD, MPH*	Concurrent Sessions Live
11:30 - 12:05 PM [Ed2 North Room 1107]	Scale-up Outcomes and Operationalization	*Cole Hooley, PhD, LCSW*	Concurrent Sessions Live
15 Minute Break			
12:20 - 1:00 PM [Ed2 North Room 1102]	Practical Advice on Getting Funded in Pragmatic Research	*Jodi Holtrop, PhD; Amy Huebschmann, MD; Dan Matlock, MD, MPH; Spero Manson, PhD*	Networking Lunch Live*
12:20 - 1:00 PM [Ed2 North Room 1107]	Resources for Academic Entrepreneurs	*Cathy Bodine, MD*	Networking Lunch Live*
15 Minute Break			
1:15 - 2:00 PM [Ed2 North Room 1102 and Ed2 North Room 1107]	Pragmatic Research Abstract and Poster Symposium B	*Various*	Poster Session Live
15 Minute Break			
2:15 - 2:50 PM [Ed2 North Room 1102]	The Art of Sustainment in Pragmatic Research	*Venice Ng Williams, PhD; Rick Duke, PhD; Marcia Ory, PhD; Julie Schwent, MHA; Gali Baler, PhD*	Panel Live*
2:50 - 3:00 PM [Ed2 North Room 1102]	Creating enduring resources for pragmatic research and the future of COPRH Con	*Bethany Kwan, PhD, MSPH*	Closing Address Live*
End of COPRH Con 2022			

Asterisk (*) represents a live, in-person presenter

Keynote and Plenary Speakers

Kristen Hassmiller Lich, PhD, MHSA
Keynote Address

Kristen Hassmiller Lich, PhD, MHSA is Associate Professor of Health Policy and Management in the Gillings School of Global Public Health at the University of North Carolina at Chapel Hill. She specializes in the application of qualitative system mapping, operations research, and complex systems simulation modeling to inform and improve the population-level impact of health care delivery, policy, and efforts of cross-sector collaborations seeking to improve health. As a methodologist, she has worked on a variety of problems spanning substance use, cancer prevention, injury and violence prevention, mental health system strengthening, road safety, and maternal and child health. Her research passion is to advance the way we use system maps, models (both qualitative and quantitative), and local data with stakeholders to improve understanding of complex systems and to inform policy and practice. In addition to teaching these methods at UNC and through the Washington University Systems Science for Social Impact summer training program, she has been invited to introduce and train on the use of systems science methods in a variety of settings including the Centers for Disease Control and Prevention (CDC), the World Health Organization, the National Institutes of Health (NIH), and the Veterans Health Administration. She serves as the Systems Core Lead on the HRSA-funded National Maternal and Child Health Workforce Development Center, developing systems science capacity among Maternal and Child Health (Title V) workforce. With colleagues she recently published the first primer on Complex Systems and Population Health (2020, Oxford University Press).

Bethany Kwan, PhD, MSPH*
Plenary Address

Bethany Kwan, PhD, MSPH is an Associate Professor and Associate Vice Chair for Research in the Department of Emergency Medicine at the University of Colorado School of Medicine, Anschutz Medical Campus. She received her PhD in social psychology from the University of Colorado Boulder in 2010, following a MSPH from the University of Colorado Health Sciences Center in 2005. She holds a BS in Chemistry and Psychology from Carnegie Mellon University (’01). As an investigator in the University of Colorado’s Adult & Child Consortium for Health Outcomes Research and Delivery Science (ACCORDS), she conducts pragmatic, patient-centered research and evaluation on health and health care in a variety of areas. With an emphasis on stakeholder engagement and dissemination and implementation (D&I) methods, her work addresses the integration of physical and behavioral health, chronic disease self-management, improving processes and systems of care to achieve the Quadruple Aim, pragmatic trials using electronic health data, and enhancing quality of life for patients and care partners. She works with patients and other stakeholders at all phases of research, from prioritization, to design, implementation, and dissemination of research. She mentors and teaches students, trainees, and fellow faculty on Designing for Dissemination to ensure that research innovations are efficiently and effectively adopted, used, and sustained in real world settings to improve health and wellbeing for all. Dr. Kwan directs the ACCORDS Education program as well as theColorado Clinical & Translational Sciences Institute (CCTSI) Dissemination & Implementation Research Core.

denotes member of the COPRH Con planning committee

Douglas Luke, PhD
Keynote Address

Douglas Luke, PhD is the Irving Louis Horowitz Professor in Social Policy at the Brown School at Washington University in St. Louis. He directs the Center for Public Health Systems Science, which focuses on public health policy research and evaluation. Dr. Luke's work has focused in recent years on systems science and implementation science. He is particularly interested in increasing the use of systems science concepts and methods within implementation science.

Wynne Norton, PhD
Plenary Address

Wynne E. Norton, PhD, is a Program Director in Implementation Science in the Division of Cancer Control and Population Sciences at the National Cancer Institute. Dr. Norton's research interests include de-implementation of ineffective interventions, evidence-based cancer care delivery, and pragmatic trials of implementation strategies. She received her PhD in social psychology from the University of Connecticut (2009) and was a fellow in the inaugural class (2010) of the Implementation Research Institute. She serves on editorial board of the journal Implementation Science.

Rachel Shelton, ScD, MPH
Keynote Address

Rachel Shelton, ScD, MPH is a social and behavioral scientist with training in cancer and social epidemiology, and expertise in implementation science, sustainability, health equity, and community-based participatory research. She is Associate Professor of Sociomedical Sciences at Columbia University's Mailman School of Public Health, where she is Co-Director of the Community Engagement Core Resource at the Irving Institute for Clinical and Translational Research (CTSA), and is Director of a university-wide Implementation Science Initiative. Dr. Shelton has taught implementation science courses and trainings nationally and globally for nearly ten years, including TIDIRC, TIDIRH, and the Institute for Implementation Science Scholars. Dr. Shelton has 15 years of experience conducting mixed-methods research focused on advancing the implementation and sustainability of evidence-based interventions in community and clinical settings to address health inequities, particularly in the context of cancer prevention/control; her research program is funded by NIA, NCI, NIMHD and American Cancer Society.

Supporting Presenters

**denotes COPRH Con Planning Committee Member*

Stephanie Andersen, MPA
Manager of Research Translation
Washington University in St. Louis

Stephanie Andersen, MPA is the Manager of Research Translation at the Center for Public Health Systems Science at Washington University in St. Louis. She oversees the Translational Science Benefits Model project, which is designed to help scientists demonstrate the impact of their research on downstream public health, clinical, and societal benefits. Stephanie also manages the CDC Best Practices User Guide project to develop a set of “how-to” implementation guides for state tobacco control programs and serves as Translation Lead for the Dissemination & Implementation Core of the ASPiRE project, which seeks to build a strong evidence base for retail tobacco control policies.

Gali Baler, PhD, MBA
Director of Investments and Venture Development
CU Department of Innovations

Gali Baler, PhD joined the University of Colorado CU Innovations office in February 2016 and serves as the "operational octopus" behind the CU Healthcare Innovation Fund and granting funding programs. His work spans the intersection of internal venture development and external innovation partnership opportunities with our healthcare system partners. He also engages in new venture development of high potential university technologies and spin-outs. Gali has a PhD in Biomedical Engineering from Northwestern University, a Bachelors in Materials Science Engineering from Cornell University, and a certificate in Management for Engineers and Scientists from the Kellogg School of Management.

Laura Balis, PhD
Research Scientist, Louisville Center
Pacific Institute for Research and Evaluation

Laura Balis, PhD is a Research Scientist at the Pacific Institute of Research and Evaluation's Louisville Center. Prior to this role, she was an Assistant Professor within the University of Arkansas System. She earned her PhD at Virginia Tech in Human Nutrition, Foods, and Exercise with an emphasis on implementation science. Dr. Balis' research focuses on building community organizations' capacity to implement evidence-based physical activity programs for diverse populations.

Ellis Ballard, MPH, MSW
Assistant Professor of Practice, Brown School
Washington University in St. Louis

Ellis Ballard, MPH, MSW is Director of the Social System Design Lab and Assistant Professor of Practice at the Brown School at Washington University in St. Louis. His research and teaching focus on advancing participatory approaches to system dynamics modeling with communities to advance health access and social justice. As a researcher and consultant, Ballard works with community organizations, foundations, development banks, research teams, and corporations to build capabilities to develop system dynamics models for organizational strategy, research design, and advocacy.

Cathy Bodine, PhD
Director, Innovation Ecosystem
Colorado Clinical and Translational Sciences Institute

Cathy Bodine, PhD, Coleman-Turner Endowed Chair in Cognitive Disability, Executive Director, Coleman Institute for Cognitive Technologies, Associate Professor, Department of Bioengineering, College of Engineering, Design and Computing, University of Colorado (CU), with appointments in the Departments of Physical Medicine and Rehabilitation, Orthopedics and Pediatrics, CU School of Medicine, Anschutz Medical Campus. She directs the Center for Inclusive Design and Engineering (CIDE) with a focus on assistive, medical, and accessible mainstream technologies; interdisciplinary research and translational applications and design innovations. She is Director, Innovation Ecosystem, Colorado Clinical Translational Sciences Institute, University of Colorado, Anschutz Medical Campus and is developing transdisciplinary educational programs in the Department of Bioengineering focused on inclusive technology, disability and aging.

Lesly Dosset, MD, MPH
Associate Professor of Surgery;
Co-Director of the Michigan Program for Value Enhancement
University of Michigan

Lesly Dossett, MD, MPH is Associate Professor of Surgery, Chief of the Division of Surgical Oncology and Co-Director of the Michigan Program for Value Enhancement (MPrOVE). She studies the de-implementation of low value care in the preoperative setting and for patients with early stage breast cancer.

Richard Duke, PhD
Associate Professor of Medicine, Medical Oncology
University of Colorado Anschutz Medical Campus

Richard Duke, PhD is a biotechnology executive, inventor, biomedical researcher and serial entrepreneur with more than 20 years of experience in building, financing, and managing start-up biotechnology companies based on inventions made in Colorado's non-profit research institutions. He is currently the PI and Co-Director of the Colorado AMC Research Evaluation and Commercialization Hub (REACH), also known as the Colorado SPARK program. Dr. Duke has been involved in the formation and/or management of more than 10 UC-AMC spin out companies, which as a group, have raised more than $250 million in financing and have advanced 9 products into phase 1 and 2 human clinical trials. In addition to his entrepreneurial activities, Dr. Duke has more than 35 years of experience in biomedical research at UC-AMC and has been the principal investigator or co-investigator on >$15 million in NIH grants, including 10 SBIR grants, has >70 research publications and articles, and has >30 patents. He received the Tibbets Award from the Small Business Administration in 2020. Dr. Duke has provided independent 3rd party research analysis in the life sciences sector to Janus Capital and to venture capital firms. He is a graduate of McGill University (B.Sc. and M.Sc.) and the University of Colorado (Ph.D.). Dr. Duke strongly believes in the merits and opportunities that arise from building new companies based on University technologies and enjoys working with academic entrepreneurs.

Meredith Fort, PhD
Research Assistant Professor, Dept. of Health Systems, Management, and Policy
Colorado School of Public Health

Meredith Fort, PhD, MPH, is a Research Assistant Professor in the Colorado School of Public Health in the Department of Health Systems, Management and Policy and the Centers for American Indian and Alaska Native Health. Currently, she is a K12 scholar in the University of Colorado's IMPACT (IMPlementation to Achieve Clinical Transformation) program. Dr. Fort is dedicated to community-engaged research aimed at improving chronic disease prevention and care and works with community, public health and primary care partners in Central America, Mexico, and the United States. Her current research focuses on: systems science approaches to design and implement multi-level and multi-sectoral interventions to prevent cardiovascular disease; hypertension control in Guatemala's public primary care system; diabetes prevention and care in Urban Indian Health Organizations; and regenerative foodscapes that promote food sovereignty and support healthy, equitable and sustainable diets and the environment.

Heather Gilmartin, PhD, NP
Clinical Associate Professor, Dept. of Health Systems, Management, and Policy
Colorado School of Public Health

Heather Gilmartin, PhD, NP is a clinical assistant professor at the University of Colorado, School of Public Health, an investigator at the Denver/Seattle Center of Innovation at the Rocky Mountain Regional VA Medical Center and associate director of dissemination and implementation at the Colorado Clinical and Translational Sciences Institute.

Russell Glasgow, PhD*
Research Professor, Department of Family Medicine
University of Colorado Anschutz Medical Campus

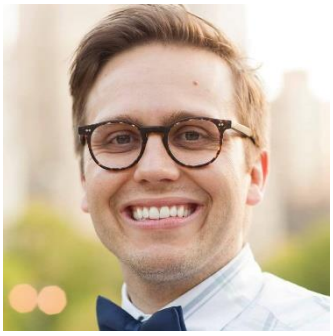
Russell Glasgow, PhD is the Director of the Dissemination and Implementation Science Program of ACCORDS (https://bit.ly/2BnJzuk) and research professor in the Department of Family Medicine at the University of Colorado School of Medicine. He is one of the original developers of the RE-AIM (www.re-aim.org), PRISM and Dynamic Sustainability frameworks and directs an NCI funded implementation science center. He is an implementation scientist whose work focuses on public health issues of studying and enhancing the reach and adoption of evidence-based programs; adaptation and context; and pragmatic research methods and measures to enhance health equity and sustainment.

Mika Hamer, MPH
Senior Research Assistant, Dept. of Health Systems, Management, and Policy
Colorado School of Public Health

Mika Hamer, MPH, is a senior research assistant and doctoral candidate (Health Services Research) in at the Colorado School of Public Health Department of Health Systems, Management, and Policy. She is a mixed-methods researcher, providing qualitative and quantitative data collection and analytic support to projects across a wide variety of topics, including mAb Colorado. Her varied research interests span health policy, equitable access to care, health care coverage/insurance benefit design, and care across the cancer continuum.

Jodi Holtrop, PhD, MCHES
Vice Chair for Research, Department of Family Medicine
University of Colorado Anschutz Medical Campus

Jodi Summers Holtrop, PhD, MCHES, is a Professor and Vice Chair for Research in the University of Colorado Department of Family Medicine and Associate Director and Senior Implementation Scientist with the Adult and Child Consortium for Health Outcomes Research and Delivery Science (ACCORDS) at the University of Colorado School of Medicine. She also is a Senior Scientific Advisor for the Agency for Healthcare Research and Quality for dissemination and implementation science and primary care research.



Cole Hooley, PhD, LCSW
Assistant Professor, School of Social Work
Brigham Young University

Cole Hooley, PhD, LCSW is an Assistant Professor in the School of Social Work at Brigham Young University. His research focuses on scale-up. Specifically, he studies how to get what works to all those who need it more rapidly, more lastingly, and more equitably.

Amy Huebschmann, MD, MS, FACP*
Associate Professor, Division of General Internal Medicine
University of Colorado Anschutz Medical Campus

Amy Huebschmann's, MD, MS, FACP, overarching goal is to optimize the delivery of evidence-based interventions to improve the treatment and prevention of diabetes, asthma, cancer, and other chronic diseases in randomized-controlled trials, and to adapt those interventions to be feasible for delivery in real-world primary care and community-based settings. Dr. Huebschmann is a primary care physician and Associate Professor at the University of Colorado School of Medicine with the Division of General Internal Medicine, Adult & Child Center for Outcomes Research and Delivery Science (ACCORDS), and the Lead Scientist for Community Education and Outreach for the Ludeman Family Center for Women's Health Research. She is the senior implementation scientist for several NIH-funded pragmatic trials, including serving as MPI for one of the 7 NHLBI-funded DECIPHeR UG3/UH3 awards to leverage implementation science to improve cardiopulmonary health inequities.

Tak Igusa, PhD
Professor, Civil and Systems Engineering
Johns Hopkins University

Tak Igusa, PhD is focused on applying system science and engineering to the implementation of evidence-based practices. He works closely with colleagues in the School of Public Health on smoking cessation programs in Maryland, food environment interventions in Baltimore City, child protection programs in Honduras and El Salvador, and service delivery redesign for maternal and newborn health in Kenya. He has also designed an app to support a training program for mental-health counselors in Zambia, South Africa, Thailand, Syria, and Ukraine.

Allison Kempe, MD, MPH*
Professor, Department of Pediatrics
University of Colorado Anschutz Medical Campus

Allison Kempe, MD, MPH is the founding Director of ACCORDS. She is a tenured Professor of Pediatrics at the University of Colorado School of Medicine and the Colorado School of Public Health and has conducted health services, outcomes, and implementation/dissemination research for over thirty years. She has extensive experience in conducting pragmatic trials, in program evaluation and in the conduct of surveys, with over 200 publications focusing on improving health care and health care delivery. Finding and testing methods of improving immunization rates and other preventive care delivery and decreasing disparities in health and health care delivery for children have been the major focus of her own research. She has received numerous R01 level grants from NIH, AHRQ, and the CDC throughout her career. Additionally, Dr. Kempe has played a major mentorship role for many fellows and junior faculty. She directed two federally funded primary care research fellowships for over 10 years and developed a fellowship for surgical and subspecialty faculty who wish to become outcomes or health services researchers. Currently, she is a Co-Director of a K12 from NHLBI that focuses on implementation and dissemination science.

Erin Kenzie, PhD
Senior Analyst, Oregon Rural Practice-Based Research Network
Oregon Health & Science University

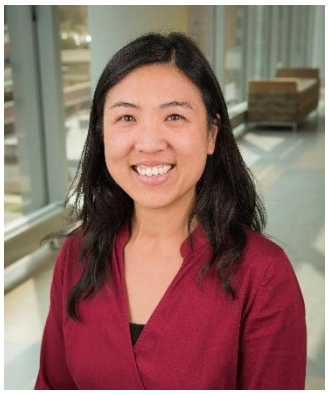
Erin Kenzie, PhD is a senior analyst at the Oregon Rural Practice-based Research Network at Oregon Health & Science University, where her research focuses on applications of systems science methods to pragmatic research. She has a PhD in systems science from Portland State University and a background in the social and behavioral sciences.

Christian Helfrich, PhD, MPH
Research Investigator, Health Services Research & Development
U.S. Department of Veterans Affairs

Christian D. Helfrich, MPH PhD, is a Core Investigator with the Seattle-Denver Center of Innovation for Veteran-Centered and Value-Driven Care, and Research Associate Professor in the Department of Health Systems and Population Health at the University of Washington School of Public Health. His research focuses on testing strategies to promote the implementation of evidence-based healthcare practices and programs, and strategies to de-implement low-value care. He also has particular interest in organizational readiness to change in the context of evidence-based practices; when and why large-scale health care initiatives succeed or fail; and the causes of burnout in the healthcare workforce. Dr. Helfrich received his doctorate in Health Policy and Management from the University of North Carolina at Chapel Hill, and his Masters in Public Health from the Department of Health Services at the University of Washington School of Public Health. He can be found on Twitter at @helfrich_c.

Harriet Koorts, PhD, MSc, BSc
Senior Research Fellow, Faculty of Health
Institute for Physical Activity and Nutrition (IPAN), Deakin University

Harriet Koorts,PhD, MSc, BSc is a Senior Research Fellow in Implementation Science in the Institute for Physical Activity and Nutrition (IPAN) at Deakin University, Melbourne, Australia. She leads the institutes implementation science cross-domain theme and her research focuses on the scaling up of population health interventions



Hillary Lum, MD, PhD
Associate Professor of Medicine, Division of Geriatric Medicine
University of Colorado Anschutz Medical Campus

Hillary Lum, MD, PhD is a geriatrician, palliative medicine physician and health services researcher. She focuses on designing innovative models of care for implementation and dissemination in primary care, especially for older adults and care partners affected by serious illnesses. As part of the Colorado monoclonal antibody dissemination and implementation team, she partnered with health care providers and other stakeholders in a rapid, iterative process to increase awareness and equitable access to COVID-19 mAb treatment.

Spero Manson, PhD
Distinguished Professor of Public Health
Centers for American Indian and Alaska Native Health (CAIANH)
University of Colorado Anschutz Medical Campus

Spero M. Manson, PhD (Pembina Chippewa) is Distinguished Professor of Public Health and Psychiatry, directs the Centers for American Indian and Alaska Native Health, and occupies the Colorado Trust Chair in American Indian Health within the Colorado School of Public Health at the University of Colorado Anschutz Medical Center. His programs include 10 national centers, which pursue research, program development, training, and collaboration with 225 Native communities, spanning rural, reservation, urban, and village settings across the country. A medical anthropologist, Dr. Manson has acquired $268 million in sponsored research to support this work and published 280+ articles on the assessment, epidemiology, treatment, and prevention of physical, alcohol, drug, as well as mental health problems over the developmental life span of Native people. His numerous awards include the APHA Rema Lapouse Mental Health Epidemiology Award (1998) and Award for Lifetime Contribution to the Field of Mental Health (2019); 4 special recognition awards from the Indian Health Service (1985, 1996, 2004, 2011); 2 Distinguished Mentor Awards from the GSA (2006, 2007); AAMC's Nickens Award (2006); George Foster Award for Excellence (2006) and Distinguished Career Achievement Award (2020) from the Society for Medical Anthropology; NIH Health Disparities Award for Excellence (2008); Bronislaw Malinowski Award from the Society for Applied Anthropology (2019); CDC Foundation's Elizabeth Fries Health Education Award (2021); election to the National Academy of Medicine (2002) and its Rhoda and Bernard Sarnat International Prize in Mental Health (2021). He is widely acknowledged as one of the nation's leading authorities in regard to Indian and Native health.

Daniel Matlock, MD, MPH
Associate Professor, Division of Geriatric Medicine
University of Colorado Anschutz Medical Campus

Daniel (Dan) Matlock, MD, MPH is the Director of the Colorado Program for Patient Centered Decisions at ACCORDS (The Adult and Child Consortium for Outcomes Research and Delivery Science). He is board certified in Internal Medicine, Geriatrics, and Palliative care. His research is aimed at fundamentally changing and improving how patients make decisions around invasive interventions.

Demetria McNeal, PhD, MBA*
Assistant Professor, Division of General Internal Medicine
University of Colorado Anschutz Medical Campus

Demetria McNeal, PhD, MBA is an academically trained health communication scientist with prior corporate and clinical experience. As a Dissemination & Implementation Scientist specializing in Health Disparities in the Black American community, her interests are to reduce health disparities in diabetes and cardiovascular disease. Dr. McNeal combines her business acumen and research agenda to design and implement evidence-based sustainable health interventions. Dr. McNeal is an Assistant Professor of Medicine, Division of General Internal Medicine, School of Medicine, University of Colorado Anschutz Medical Campus.

Joanna C. Moullin, PhD
Implementation Science Lead, Health Science enAble Institute
Curtin University

Joanna C. Moullin, PhD is the Implementation Science platform lead in the Faculty of Health Sciences enAble Institute at Curtin University in Perth, Western Australia. Dr. Moullin's research encompasses a number of topics related to conducting implementation research and implementation in practice. In particular, Dr. Moullin has extensive knowledge and experience in implementation theory, implementation research methodologies and measurement development.

Marcia G. Ory, PhD, MPH
Regents and Distinguished Professor, School of Public Health
Texas A&M University

Marcia G. Ory, PhD, MPH is a Regents and Distinguished Professor, Department of Environmental and Occupational Health, Texas A&M School of Public Health (SPH) in College Station, Texas. Additionally, Dr. Ory serves as principal faculty in the Texas A&M Center for Population Health and Aging which she established in 2016. Working with interdisciplinary teams, her primary goal is to reframe healthy aging as the new normal through innovative research, education, and service. Dr. Ory is an international leader in the translation of research to practice through investigations of behavioral, social, environmental, policy, and/or technological solutions to enhance health and quality of life for all.

William (Bill) Oswald, PhD
Associate Executive Director
Global Action Research Center

William (Bill) Oswald received his PhD from the University of Rhode Island, where he studied Community Psychology. His work is focused on supporting communities in finding their voice, becoming civically engaged, and inserting that voice into the public dialogue. With over forty years of experience his work has ranged from direct community organizing to providing training and technical assistance to community leaders to conducting participatory research in support of community campaigns.

Jonathan Purtle, DrPH
Associate Professor, Public Health Policy and Management
New York University School of Global Public Health

Jonathan Purtle, DrPH is an Associate Professor in Department of Public Health Policy & Management and Director of Policy Research of the Global Center for Implementation Science at the New York University School of Global Public Health. He is an implementation scientist whose research focuses on mental health policy. His work examines questions such as: how research evidence can be most effectively communicated to policymakers and how it is used in policymaking processes, how social and political contexts affect policymaking and policy implementation, and how the implementation of policies "on the books" can be improved in practice.

Borsika Rabin, PhD, MPH, PharmD*
Assistant Professor, Department of Family Medicine
University of California, San Diego

Borsika Rabin, PhD, MPH, PharmD is an Assistant Professor at the Department of Family Medicine and Public Health at the School of Medicine, University of California San Diego where she also serves as the co-Director of the UC San Diego D&I Science Center. Dr. Rabin serves as the co-lead of the Implementation Core for the Triple Aim QUERI Program for Denver VA and an Implementation Scientist at the Center of Excellence in Stress and Mental Health at the San Diego VA. She is a member of the ACCORDS Dissemination and Implementation Science Program at the University of Colorado. Her research focuses on dissemination and implementation (D&I) of evidence-based interventions, adaptations, measurement, and the evaluation and development of interactive, web-based interventions and tools with a special emphasis on tools that can support planning for D&I interventions. She designed and developed a number of web- based resources including the D&I Models in Research and Practice (https://dissemination-implementation.org/) websites.

Jenna Reno, PhD
Senior Research Instructor, Department of Family Medicine
University of Colorado Anschutz Medical Campus

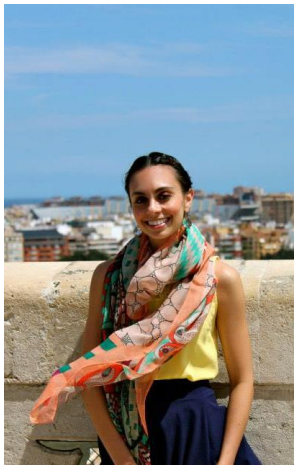
Jenna Reno, PhD is a Communication and Dissemination Scientist with the Colorado Clinical and Translational Sciences Institute (CCTSI) Dissemination and Implementation Research Core and a Senior Research Instructor in University of Colorado's Department of Family Medicine. Her research aims to develop, implement, and evaluate theoretically-based, digital health interventions to promote positive healthcare decision-making and health behavior change. The goal of her research is to promote health equity through the development of effective strategies for advancing science translation specifically in the area of communication and dissemination of evidence-based practices for health promotion and disease prevention.

Nasim Sabounchi, PhD, MSc
Research Associate Professor, Department of Health Policy and Management
CUNY Graduate School of Public Health and Health Policy

Nasim Sabounchi, PhD, MSc is a Research Associate Professor at the City University of New York (CUNY) Graduate School of Public Health and Health Policy where she is also affiliated with the Center for Systems and Community Design (CSCD). She is an industrial and systems engineer, and a systems scientist in the field of public health and healthcare and recipient of the Systems Science Scholarship, Academy of Health - Robert Wood Johnson Foundation. Her research interest involves adopting tools including systems science methodologies, systems engineering and data analytics to model complex systems and problems pertaining to health outcomes at both the individual and population levels. Dr. Sabounchi contributes to the advancement of system dynamics modeling and computer simulation for studying complex health and social systems and leads various projects in the domain of public health and health policy analysis including prevention of prescription misuse and opioid use, infectious disease, enhancing access to care for socio-economically disadvantaged populations, antibiotic resistance, Lyme Disease, HPV, and epidemics.

Julie Schwent, MHA
Associate Director, Office of Value Based Performance
University of Colorado Anschutz Medical Campus

Julie Schwent, MHA received undergraduate degrees in Industrial Engineering and Mathematics from the University of Missouri-Columbia and a Masters in Healthcare Administration from the Johns Hopkins Bloomberg School of Public Health. She has built her career in the value-based program space, managing teams of administrative and clinical employees focused on improving quality and reducing unnecessary utilization within the healthcare system. Julie's expertise surrounds regulatory interpretation, contract management with payers, and finance/budgeting activities supporting the sustainment of "Population Health" resources within the Patient-Centered Medical Home model.



Nicole Stadnick, PhD, MPH
Assistant Professor, Department of Psychiatry
Director of Dissemination and Evaluation, ACTRI Dissemination and Implementation Science Center
University of California at San Diego

Nicole Stadnick, PhD, MPH, is an Assistant Professor of Psychiatry at UC San Diego, Director of Dissemination and Evaluation of the UC San Diego Dissemination and Implementation Science Center, researcher at the Child and Adolescent Services Research Center and a licensed psychologist. Her program of federally, state and privately funded research focuses on evaluating the implementation and sustainment of evidence-based practices in community-based health or mental health service contexts. She has received NIH-funded fellowships from the Child, Intervention, Prevention, and Services Research Mentoring Network (2015-2016), the Implementation Research Institute (2017-2018) and the Mixed Methods Training Program for the Health Sciences (2019-2020). She currently leads community-engaged, cross-system health services and implementation research in community settings including federally qualified health centers, low-and-middle income countries, publicly-funded mental health services and HIV/AIDS care programs.

Robert Thompson, BA
Communications Program Director
Colorado Clinical and Translational Sciences Institute (CCTSI)
University of Colorado Anschutz Medical Campus

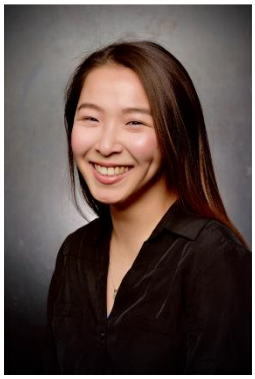
Robert Thompson, BA serves as the Program Manager for the CCTSI Dissemination Consult Service.

Amy Tyler, MD, MSCS
Associate Professor of Pediatrics, Pediatric Hospital Medicine
Children's Hospital Colorado

Amy Tyler, MD, MSCS is an Associate Professor of Pediatrics in the Section of Hospital Medicine in the Department of Pediatrics at the University of Colorado School of Medicine and Children's Hospital Colorado and serves as the Director of Quality Improvement for the Section of Hospital Medicine. As a health services and implementation science researcher, Dr. Tyler's research focuses on "de-implementation" to identify processes and strategies to stop or reduce over-testing and over-treatment that can be broadly adapted to varied contexts and disease processes to improve the delivery of guideline concordant, evidence-based care and improve patient outcomes.

Paul Watson, Jr., MSHS
President & CEO
The Global Action Research Center

Paul Watson, MSHS has over 40 years direct experience in human service administration, community organizing, youth development, and program development. He has also served as a consultant locally, nationally and internationally, providing training, research, and strategic planning. Paul has served as a Lecturer and Adjunct Faculty at Springfield College, UC San Diego, The New School of Architecture and Design, and San Diego City College.



Venice Williams, PhD, MPH
Assistant Professor, Prevention Research Center for Family and Child Health
University of Colorado Anschutz Medical Campus

Venice Williams, PhD, MPH is a mixed methods health services researcher, focused on improving the implementation of evidence-based home visiting programs like Nurse-Family Partnership through program innovations, cross-sector collaboration, and systems integration. She has a range of experience in health services research, including conducting health impact assessments to inform child welfare policy, evaluating systems-change interventions with Urban Indian health centers, and developing collegiate tobacco control policies. She is passionate about engaging with communities to improve health outcomes among families experiencing adversities.

COPRH Con

Colorado Pragmatic Research in Health Conference

Conference Materials

Principles, Methods, and Systems for Designing for Dissemination, Sustainability, and Equity

Bethany Kwan, PhD, MSPH

Abstract

Designing for Dissemination, Sustainability, and Equity ("D4DSE") refers to principles and methods for addressing the need for innovation 'fit to context' and early planning for active dissemination, sustainability, and equitable impact on health. In adopting a D4DSE perspective, scientists should start by considering who will ultimately benefit from uptake and use of the research product – and who may not, and if expected benefits are likely to be equitable. Understanding who will decide to use and pay for an innovation and the characteristics of the setting and potential adopters is needed to inform "innovation-context" fit. Innovation-context fit refers to the extent to which the products of research match the needs, resources, workflows, and contextual characteristics of the target audience and setting. Ensuring innovation-context fit happens at many phases of the research process, from conceptualization, to design, to dissemination, to impact. The Fit to Context Framework lays out a process for D4DSE in accordance with these phases. Methods for participatory co-design, context and situation analysis, systems science, business and marketing approaches, communication, and the arts can also be useful for D4DSE. Designing with a focus on health equity benefits from a "design justice" perspective, which requires strong partnerships with communities and systems. Recommendations for enhancing the culture, systems, and incentives for a D4DSE approach to research will be presented.

Learning Objectives:

1. Describe the principles of D4DSE: beginning with the end in mind, ensuring innovation-context fit, and planning for active dissemination
2. Identify frameworks and methods useful for designing and disseminating a range of research products from a D4DSE perspective
3. Describe the phases of the Fit to Context Framework for D4DSE

Notes

Dissemination to Policymakers

Jonathan Purtle, DrPH, New York University

Dissemination Research Defined:
"The scientific study of targeted distribution of information and intervention materials to a specific public health or clinical practice audience. The intent is to understand how best to spread and sustain knowledge and the associated evidence-based interventions." (NIH PAR-18-007)

Table: A Research Approach for Data-Driven Dissemination

Type of Study	Objective	Purpose
Formative audience research	Characterize a target audience's awareness about, adoption of, and attitudes towards an intervention, and preferences for receiving information about it, as well as other individual attributes that may influence practice behavior and perceptions of context (e.g., self-efficacy, injunctive social norms).	Provide an empirical foundation to inform the design and distribution of dissemination materials.
Audience segmentation research	Identify discrete and meaningful sub-groups within an audience that vary in terms of their awareness about, attitudes towards, adoption of, and preferences for receiving information about an intervention.	Inform the adaptation of dissemination materials and modes of delivery for different audience segments.
Dissemination effectiveness research	Test dissemination strategies to determine which are most effective at changing an audience's awareness about, attitudes towards, and adoption of an intervention.	Determine which dissemination strategies should be scaled-up.

Recommended Resources:

Purtle, J., Marzalik, J. S., Halfond, R. W., Bufka, L. F., Teachman, B. A., & Aarons, G. A. (2020). Toward the data-driven dissemination of findings from psychological science. *American Psychologist*, *75*(8), 1052.

Purtle, J., Nelson, K. L., Bruns, E. J., & Hoagwood, K. E. (2020). Dissemination strategies to accelerate the policy impact of children's mental health services research. *Psychiatric services*, *71*(11), 1170-1178.

Ashcraft, L. E., Quinn, D. A., & Brownson, R. C. (2020). Strategies for effective dissemination of research to United States policymakers: a systematic review. *Implementation Science*, *15*(1), 1-17.

Brownson, R. C., Royer, C., Ewing, R., & McBride, T. D. (2006). Researchers and policymakers: travelers in parallel universes. *American journal of preventive medicine*, *30*(2), 164-172.

Selecting Engagement Strategies for Rapid Stakeholder Engagement and Dissemination

Mika Hamer, MPH; Hillary Lum, PhD, MD; Jenna Reno, PhD

Abstract

This session will describe rapid stakeholder engagement and rapid iterative prototyping to developing communication materials to support awareness of and equitable access to monoclonal antibodies (mAbs) for outpatient treatment of Covid-19 in Colorado. We will describe the choice of, use, and lessons learned from two stakeholder engagement methods to increase public awareness, especially in diverse communities: community engagement studios and town halls. This session will include an interactive activity to consider and select a stakeholder engagement method using www.dicemethods.org. We will discuss implications for scaling dissemination strategies.

Learning Objectives:

1. Demonstrate how to use stakeholder engagement in the context of rapid and responsive dissemination
2. Describe the choice of, use, and lessons learned from two stakeholder engagement methods - Community Engagement Studios and Town Halls
3. Use an online tool to choose an evidence-based stakeholder engagement method

Notes

Selecting Engagement Strategies for Rapid Stakeholder Engagement and Dissemination

Mika Hamer, MPH; Hillary Lum, PhD, MD; Jenna Reno, PhD

STAKEHOLDER ENGAGEMENT NAVIGATOR

DICEmethods.org | Dissemination, Implementation, Communication, and Engagement
A guide for health researchers

This Worksheet can help you consider your project basics and options for stakeholder engagement.

Research Project (title or topic):

Research Stage Selection: During which stage of your research project do you plan to use stakeholder engagement activities?

- ◯ Planning
- ◯ Implementing
- ◯ Disseminating

Research Stage: Disseminating (for example); Why do you want to engage stakeholders?

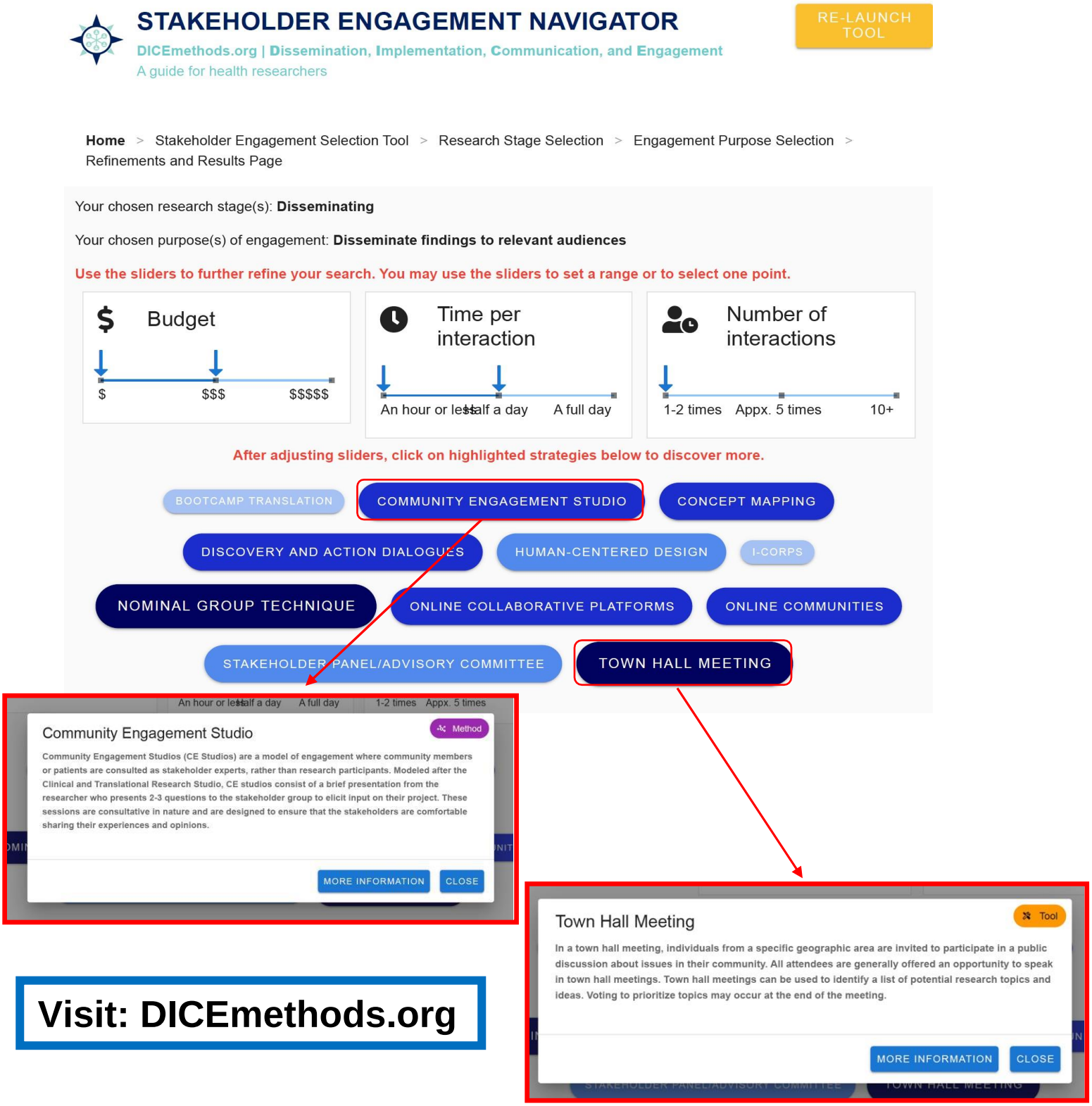
- ◯ Design strategies for translating research into practice
- ◯ Describe findings in a way stakeholders can understand and use
- ◯ Disseminate findings to relevant audiences

Timeframe: What is your overall timeline, and the time you have per interaction?

Additional Considerations:

- **Purpose:** What do you hope to achieve through stakeholder engagement?
- **Budget:** What budget do you expect to have for your engagement activities?
- **Number of interactions:** Over what period of time do you expect to engage your stakeholders?
- **Time per interaction:** How much time do you expect from your stakeholders in any given interaction?
- **Staffing/expertise:** What types of staffing and expertise are available to you?

Here's an example of how project selections provide options in the DICEMethods.org Navigator:



Visit: DICEmethods.org

Selecting Engagement Strategies for Rapid Stakeholder Engagement and Dissemination

Mika Hamer, MPH; Hillary Lum, PhD, MD; Jenna Reno, PhD

Abstract

This session will describe rapid stakeholder engagement and rapid iterative prototyping to developing communication materials to support awareness of and equitable access to monoclonal antibodies (mAbs) for outpatient treatment of Covid-19 in Colorado. We will describe the choice of, use, and lessons learned from two stakeholder engagement methods to increase public awareness, especially in diverse communities: community engagement studios and town halls. This session will include an interactive activity to consider and select a stakeholder engagement method using www.dicemethods.org. We will discuss implications for scaling dissemination strategies.

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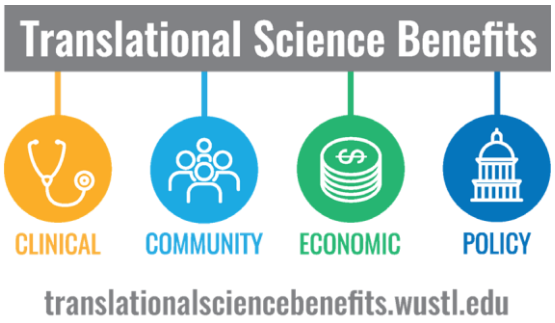
Notes

Translating for Impact: A toolkit to apply the Translational Science Benefits Model to your work

Stephanie Andersen, MPA

The TSBM:



The Translational Science Benefits Model (TSBM) is a framework for assessing the health and societal benefits of clinical and translational science. The framework was developed by a cross-disciplinary team including members of the Institute of Clinical and Translational Sciences (ICTS), Bernard Becker Medical Library at Washington University School of Medicine, and the Center for Public Health Systems Science at the Brown School at Washington University.

The TSBM can help researchers, administrators and policymakers measure the impact of their work in four distinct domains: CLINICAL, COMMUNITY, ECONOMIC, and POLICY:

- **Clinical and Medical Benefits** (Procedures, guidelines, tools, and products)
- **Community and Public Health Benefits** (Health activities, care, and promotion)
- **Economic Benefits** (Commercial products, financial savings and benefits)
- **Policy and Legislative Benefits** (Advisory activities, policies and legislation)

Translating for Impact Toolkit:

The toolkit helps researchers apply the TSBM to their research projects, centers, and initiatives. The toolkit has three steps and nine tools.

PLAN

- Road Map to Impact: Map out your plan to achieve impact
- Benefits 2x2: Identify and prioritize the benefits of your research
- Stakeholder Mapper: Engage stakeholders based on their influence and interests
- Team Manager: Identify team members and expertise necessary to achieve impact

TRACK

- Impact Tracker: Benchmark progress on metrics of impact

DEMONSTRATE

- Product Navigator: Choose the impact product for your goal and audience
- Case Study Builder: Tell the story of your impact
- Impact Profile: Summarize your impact in one page
- Dissemination Planner: Share your impact products

Implementation Research Institute (IRI) uses the toolkit:

In fall 2021, the Translational Science Benefits Model project team worked with the Implementation Research Institute (IRI) to develop six impact case studies demonstrating how implementation science can improve health services and change communities.

The case studies showcase the impact of IRI fellows' and alums' work, and the impact of the IRI itself as a mentored network. Principal investigators for the six research projects used the Translating for Impact toolkit Case Study Builder to develop their case studies.

Key resources and references:

Translational Science Benefits Model website

Translating for Impact Toolkit

Translating for Impact Case Studies

IRI Impact Highlights 2021

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).

Notes

Pragmatic Measures and Methods: Approaches Based on the PRISM and RE-AIM Framework

Meredith Fort and Russell Glasgow

(Desired) Characteristics of Pragmatic Measures

1. Required Criteria*
    - Important to community partners
    - Burden is low to moderate and simple to score
    - Broadly applicable, has norms to interpret
    - Feasible, acceptable,
    - Sensitive to change

2. Additional Criteria
    - Actionable
    - Low probability of harm
    - Addresses public health goal(s)
    - Related to theory or model
    - "Maps" to "gold standard" metric or measure

*Adapted from: Glasgow, RE and Riley, WT. (2013) *Am J Prev Med* 2013;45(2):237–243) *and Stanick C,* et al Transl Behav Med 2021 Feb 11;11(1):11-20.

Where to find pragmatic measures

PROMIS website http://www.healthmeasures.net/explore-measurement-systems/promis

Society for Implementation Research Consortium (SIRC)
https://societyforimplementationresearchcollaboration.org/

GEM - NCI website
https://www.gem-beta.org/public/MeasureList.aspx?cat=2

My own health report (MOHR) project.
http://myownhealthreport.org/

PRISM Assessment

Context Assessment

*Here are some questions about how different aspects of your setting **fit or align** with the program.*

Area 1: Program Characteristics

This concerns the extent to which the people receiving the program find the program's components to be useful or beneficial.

Think about multiple types of recipients - both members of the delivery team and participants who will be eventual beneficiaries of the program.

	not at all	slightly	somewhat	moderately	largely	completely	N/A
How well does your program currently align with the expectations and perspectives of the recipients?	○	○	○	○	○	○	○

Area 2: Recipient Characteristics - patients or community members

This concerns the characteristics of the patients or participants for whom the program is being developed and implemented.

	not at all	slightly	somewhat	moderately	largely	completely	N/A
How well does the program align with the characteristics of your patients or participants?	○	○	○	○	○	○	○

Area 3: Recipient Characteristics - organizational (setting) stakeholders

This concerns the characteristics of the organizational stakeholders in the setting the program is being implemented. Think about both stakeholders who are involved with decision making and those delivering the program.

	not at all	slightly	somewhat	moderately	largely	completely	N/A
How well does your current program align with the characteristics of your organizational stakeholders?	○	○	○	○	○	○	○

Area 4: Implementation and Sustainability Infrastructure

This concerns the resources for the program that is being implemented. Think about the different resources, processes (e.g., audit and feedback) and structures that might influence the success of the program now and in the future.

	not at all	slightly	somewhat	moderately	largely	completely	N/A
How well does your program align with your current resources and support processes?	○	○	○	○	○	○	○

Area 5: External Environment
Think about influences such as policies, regulations or reimbursement issues that might influence the success of the program.

	not at all	slightly	somewhat	moderately	largely	completely	N/A
How well does your program align with the characteristics of the external environment?	○	○	○	○	○	○	○

What else is important to consider in thinking about the current and future status of the program in your setting?

RE-AIM Assessment

Impact Assessment
Here are some questions about how the program performs on various aspects of the RE-AIM framework that you heard about.

Area 1a: Adoption
*The number and percent of those **settings** (e.g., clinics, schools) and **staff** invited that agree to participate in a program.*

	not at all	slightly	somewhat	moderately	largely	completely	N/A
To what extent is the program being adopted by the intended settings?	○	○	○	○	○	○	○
To what extent is the program being adopted by staff within your site?	○	○	○	○	○	○	○

Area 1b: Adoption Representativeness

*Considers if those **settings** and staff with the fewest resources and serving socially and economically disadvantaged clientele participate as much as other settings.*

	not at all	slightly	somewhat	moderately	largely	completely	N/A
To what extent is the program being adopted by settings with few resources and that serve socially and economically disadvantaged participants?	○	○	○	○	○	○	○
To what extent are staff who participate in the program similar to those who decline?	○	○	○	○	○	○	○

Area 2: Implementation

Implementation describes how the program is delivered and is concerned with fidelity to core functions (or components), adaptations to the program, and the costs and resources required.

	not at all	slightly	somewhat	moderately	largely	completely	N/A
To what extent are the core functions (or components) of the program being delivered with high quality?	○	○	○	○	○	○	○
To what extent is the program being adapted as needed to fit your site?	○	○	○	○	○	○	○
To what extent are the cost and resources needed to deliver the program feasible for your site?	○	○	○	○	○	○	○

Area 3a: Reach

Number and percent of those who participate of those who are invited or eligible (i.e., intended Veterans or recipients).

	not at all	slightly	somewhat	moderately	largely	completely	N/A
To what extent is your program reaching a high percentage of the intended participants?	○	○	○	○	○	○	○

Area 3b: Reach Representativeness

Who is intended to benefit and who actually participates, including the extent to which there are equity concerns related to participation.

	not at all	slightly	somewhat	moderately	largely	completely	N/A
To what extent is your program equitably reaching the intended participants that are socially and economically disadvantaged?	○	○	○	○	○	○	○

Area 4a: Effectiveness

Whether the program is achieving its goals and its impact on your key outcomes. Effectiveness also includes the program's impact on quality of life and any negative effects.

	not at all	slightly	somewhat	moderately	largely	completely	N/A
To what extent is your program effective?	○	○	○	○	○	○	○

Area 4b: Effectiveness Representativeness

The variability in outcomes across participants, including the extent to which there are equity concerns.

	not at all	slightly	somewhat	moderately	largely	completely	N/A
To what extent is your program effective for participants who are socially and economically disadvantaged?	○	○	○	○	○	○	○

Area 5a: Maintenance (SETTING LEVEL)

The extent to which a program continues to be delivered (with appropriate adaptations as needed) to become part of the routine organizational practices, at a minimum follow-up of one year and preferably two or more years.

	not at all	slightly	somewhat	moderately	largely	completely	N/A
How likely it is that your program will continue to be delivered over time in a high percentage of participating settings?	○	○	○	○	○	○	○
To what extent will your program continue to be adapted as needed so that it continues to produce high quality results?	○	○	○	○	○	○	○

Area 5b: Maintenance (INDIVIDUAL LEVEL)

The extent to which the program effectiveness is sustained over time.

	not at all	slightly	somewhat	moderately	largely	completely	N/A
How likely is it that will your program show sustained effectiveness (at minimum 1-2 years)?	○	○	○	○	○	○	○

Area 5b: Maintenance Representativeness

The extent to which the program effectiveness is sustained over time for economically disadvantaged

participants.

	not at all	slightly	somewhat	moderately	largely	completely	N/A
How likely is it that your program will show sustained effectiveness over time (at a minimum 1-2 years) for socially and economically disadvantaged participants?	○	○	○	○	○	○	○

Using Systems Diagrams to Conceptualize Context and Interventions in Pragmatic Research

Erin Kenzie, PhD

Abstract

Despite broad recognition of the need to account for complexity in pragmatic research, many available conceptual tools and frameworks are linear or categorical. Diagramming approaches from systems science such as causal-loop modeling and stock-and-flow diagramming can be used to visually describe how an intervention is believed to act on multilevel contextual factors to produce outcomes. Several examples will be briefly presented, and advantages and limitations of this approach for pragmatic research teams will be discussed.

Learning Objectives:

1. Learn how systems diagrams can be used to illustrate complex interconnections between context, interventions, implementation strategies, and outcomes
2. Learn to compare systems diagrams with standard frameworks
3. Learn about advantages and limitations of using systems diagrams to support decision-making in pragmatic research

Notes

Using Systems Diagrams to Conceptualize Context and Interventions in Pragmatic Research

Erin Kenzie, PhD

Key Terms

- Dynamic complexity: Arises from interactions between variables over time; beyond detail complexity
- Dynamic hypothesis: A working theory of how a problem arose and is perpetuated
- Causal-loop diagram: Node-and-arrow diagram illustrating feedback loops and interrelationships
- Stock-and-flow diagram: Diagram illustrating accumulations and flows; can lead to simulation

Colorectal cancer screening example

Link to diagram: https://kumu.io/ekenzie/smarter-crc-cld-v2

Link to walkthrough: https://ekenzie.kumu.io/managing-complexity-in-smarter-crc-v2

Characteristics of systems diagramming approach

- Describes *how* system structure produces behavior
- Centers the problem or system and its context
    - Interventions are seen as attempts to change system behavior
- Can be used as a conceptual model
    - Can be a mirror for study team's mental model
    - Can help align and refine perspectives of team members
    - Can draw from various source material
- Can be used to aid planning and analysis
    - Should be revisited & revised
- Time intensive and requires training

References

Coronado, G.D., Leo, M.C., Ramsey, K. et al. Mailed fecal testing and patient navigation versus usual care to improve rates of colorectal cancer screening and follow-up colonoscopy in rural Medicaid enrollees: a cluster-randomized controlled trial. *Implement Sci Commun* 3, 42 (2022).

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Davis MM, Renfro S, Pham R, Hassmiller Lich K, Shannon J, Coronado GD, et al. Geographic and population-level disparities in colorectal cancer testing: a multilevel analysis of Medicaid and commercial claims data. *Prev Med*. 2017;101:44–52.

Sterman, J. *Business Dynamics: Systems Thinking and Modeling for a Complex World*. Irwin/McGraw-Hill. (2000).

Recommended Reading

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Systems Science in Implementation Research

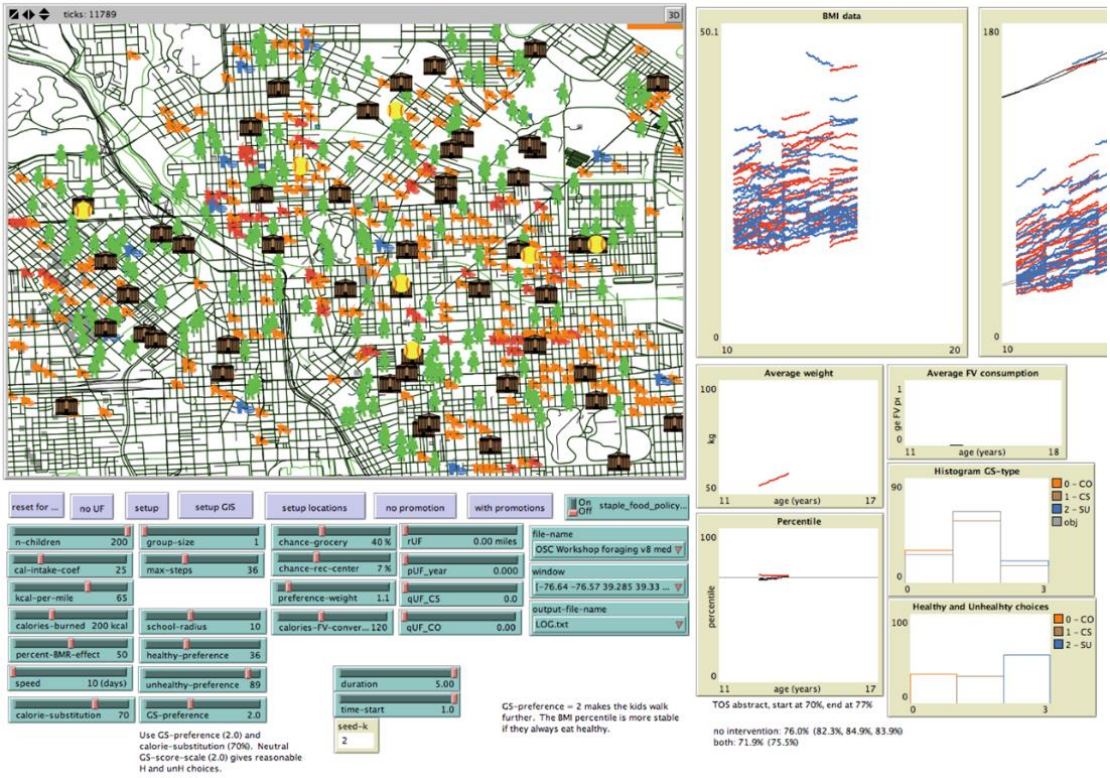
Tak Igusa, PhD; Johns Hopkins University

Key points

1. Simulation dashboards are useful in engaging policy makers in the implementation process.
2. Simulated agents can include:
    a. Children walking to and from school, purchasing foods at neighborhood food sources, and using recreation facilities.
    b. Residents using vehicle services in mobility deserts
3. Simulation of mobility interventions can utilize freely available, commercial grade transportation simulators (SUMO).

Sample figures

Dashboard of school-aged children interacting in their food and recreation environment



The map shows geographic features; sliders on bottom-right can control parameters; plots on right side present results simultaneously.

Simulated ride sharing services in a mobility desert in South Baltimore

Autonomous vehicles are red cars operating as ridesharing; ovals are pedestrians traveling in network in different modes. The destination is the grocery store on left side (red rectangle). This simulation is used to estimate the impact of autonomous vehicles on access to nutritious food.

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Advancing De-implementation Research in Health Care and Public Health: Current Approaches and Future Directions

Wynne E. Norton, PhD

Abstract

De-implementing ineffective interventions in health care and public health settings is essential for minimizing patient harm, maximizing efficient use of resources, maintaining public trust, and improving population health. Research has documented the use of ineffective or low-value health-focused practices across a range of health content areas, giving rise to the increasing recognition and need for research on de-implementing such interventions to ultimately guide de-implementation practice. This presentation will cover some key concepts in de-implementation, predictors, processes, and outcomes of de-implementation, examples of how to study de-implementation, and future directions and opportunities for advancing research on de-implementation.

Learning Objectives:

1. Understand the need for research on de-implementation

2. Identify key multi-level concepts in de-implementation research

3. Describe examples of studying de-implementation of ineffective healthcare and public health interventions

4. Identify opportunities for advancing research on de-implementation

Notes

De-implementing low-value care: Considerations for assessing outcomes and for understanding the interplay with health equity

Christian D. Helfrich, MPH PhD; Amy Tyler, MD

Learning objectives:

1. Be able to describe three considerations for assessing outcomes when studying de-implementation
2. Name three unique challenges related to equity in de-implementation
3. Explain three possible solutions that implementation scientists can adopt to address equity challenges in research on de-implementation

Considerations for assessing outcomes in de-implementation

Three considerations for assessing outcomes when studying de-implementation or developing de-implementation programs:

Unintended consequences: Psychological reactance (anger & mistrust). Both patients and providers could potentially experience de-implementation efforts as an infringement, for patients on their right to receive services, and for providers on their professional prerogative. People often respond to threats to freedom with anger & mistrust, termed psychological reactance. This is probably not just an issue for de-implementation--implementation efforts probably also carry some risk of provoking psychological reactance, especially among providers--but it's almost certainly worse for de-implementation because (a) de-implementation can be perceived as motivated by cost; and (b) for providers, it's more likely than implementation to be taken as an implicit criticism of their practice (e.g., they're telling me to stop doing this because I'm a bad doctor/nurse/therapist). Anger is likely transitory but mistrust may persist (Helfrich et al 2022); there is a risk that we not only damage a given effort to reduce low-value care, but poison the relationships we need for future efforts to improve quality. This response is something we need to assess and address by involving stakeholders early, and collecting data on participants' experiences.

Intervention-outcome asymmetry: In implementation efforts, the intervention outcome is the benefit from implementing the evidence-based practice; at least in principle, the clinician or practitioner who is implementing the evidence-based practice is delivering some benefit to their patient. However, for de-implementation efforts, the expected benefit is typically an absence of bad outcomes--from the provider's or practitioner's perspective, the best expected outcome is often literally *nothing*: a low-value inhaler is eliminated & the patient doesn't experience a breathing exacerbation; a low-value cancer screening is forgone & the patient never develops cancers; or a patient who has an upper respiratory infection doesn't receive an antibiotic and it resolves on its own in a couple of weeks (Helfrich et al 2022). The problem this creates for the provider or practitioner is that they may experience a real risk of a bad outcome, e.g., an angry patient or a random bad event, and conversely fail to perceive any real benefit. More so than implementation interventions, de-implementation may require implementation researchers to engineer feedback that helps reveal the benefits to stakeholders and create positive reinforcement for de-implementation.

Measuring (de-)implementation outcomes: Proctor and colleagues established a set of outcomes specific to implementation, meaning factors that implementation strategies could or need to influence in order to achieve high levels of implementation. These include acceptability, adoption, appropriateness, feasibility, fidelity, implementation cost, penetration, and sustainability. These can be equally applied to much of our de-implementation work, but in some cases, e.g., certain tests and imaging, patients and provider (or other stakeholder) perceptions of the low-value practice are difficult to assess and even potentially introduce confusion. For example, patients about to receive a non-cardiac surgery may not even be aware that cardiac stress tests are often inappropriately used to assess patient eligibility ahead of the surgery; assessing patient perceptions of acceptability of de-implementing cardiac stress tests may at best be meaningless and at worst confusing for a patient. It may be that the concept still applies (e.g., how acceptable the patient or provider will find the idea of having a common practice curtailed) but it may need to be assessed with different measures or methods, such as more open-ended qualitative methods.

Equity and de-implementation: Unique or special challenges

Within insured populations (e.g., a given managed care organization, or within Medicare), we can end up in a situation where some patients subsidize low-value care delivered to other patients. This is because all patients pay into insurance, but receipt of low-value care can vary substantially among patients. There is some research that finds more socially or economically advantaged patients are more likely to receive low-value care. For example, an analysis of Medicare data found that the highest income women received more low-value mammograms relative to poor women, and the size of this disparity increased over time (Xu et al, 2017). Across a range of low-value screening tests, the result was that 10%-15% of the sample received what the researchers termed a "negative subsidy" (meaning they paid for more care than they received), and this was primarily among socioeconomically disadvantaged patients. So low-value care that primarily affects white, middle-class patients, can still have direct effects on minority and/or socioeconomically disadvantaged patients.

There are examples where African-American patients are subject to both more low-value care & less high-value care (Schpero et al 2017) and examples where African-American patients receive less care--less high-value care but also less low-value care (Kressin & Groeneveld, 2015). We refer to the former as the *double-jeopardy* model and the latter as the *thermostat* model (thermostat because the idea is we're just raising or lowering the amount of care whether high-value or low-value care). Why does that happen--what's different in those cases where we observe double-jeopardy versus the thermostat model? We don't understand this well, though there might be insights from equity research that are not understood by implementation researchers and vice-versa. There's also the possibility that there are other less-well defined or studied subgroups (e.g., immigrants, sexual minority patients, geographically isolated patients) who also experience double-jeopardy.

Patient experience of low-value care: There are some documented differences among patients by race and gender in their relative concerns about overuse and under-use, and feeling like their clinicians are providing care when less expensive options are available (Kressin & Lin, 2015; Groenevald et al 2008). These patient-level experiences have profound implications for how patients respond to our de-implementation efforts--you can draw a direct line from patient experience back to psychological reactance (specifically mistrust/counter-arguing) and to measuring implementation outcomes such as acceptability. We have to anticipate that different groups of patients might interpret and experience de-implementation efforts very differently.

Solutions that implementation scientists can adopt to better address equity in de-implementation

- Specifically testing de-implementation strategies' effects on equity, including at the population level to reveal both(both what?) in terms of patient experience of de-implementation and effects on low-value care outcomes.
- Specifying and measuring potential mechanisms driving low-value care and the mechanisms we intervene on during de-implementation in order to better understand the double jeopardy vs. thermostat models of overuse among patient subgroups.
- Subgroup analyses, e.g., of experiences of low-value care and of de-implementation strategies. Using patient/stakeholder advisory groups to lead this work.

This content was adapted from:

Helfrich, C. D., Majerczyk, B. R., & Nolen, E. (2022). De-Implementing Low-Value Practices in Healthcare and Public Health. In *Practical Implementation Science: Moving Evidence into Action*, Bryan J. Weiner, Cara A. Lewis & Kenneth Sherr, Eds. pg 309.

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Notes

Choosing What to De-Implement: Examples from Clinical Practice

Lesly Dossett, MD, MPH

Abstract

Choosing Wisely and similar campaigns have provided over 550 recommendations to avoid the use of tests and treatments that do not benefit patients. For those interested in reducing low-value care, how to choose which of these recommendations to support with active de-implementation efforts can be difficult. In this session, we will discuss the levels of evidence most conducive to de-implementation efforts, review measurement of low-value practice to identify de-implementation opportunities and discuss the practical contextual factors that support or hinder de-implementation efforts.

Learning Objectives:

1. Understand the levels of evidence most conducive to supporting de-implementation.

2. Understand measurement of low-value care to identify de-implementation opportunities.

3. Describe the contextual factors that either support or hinder de-implementation efforts.

Notes

Choosing What to De-Implement: Examples from Clinical Practice

Lesly A. Dossett, MD, MPH

1. Consider the Evidence

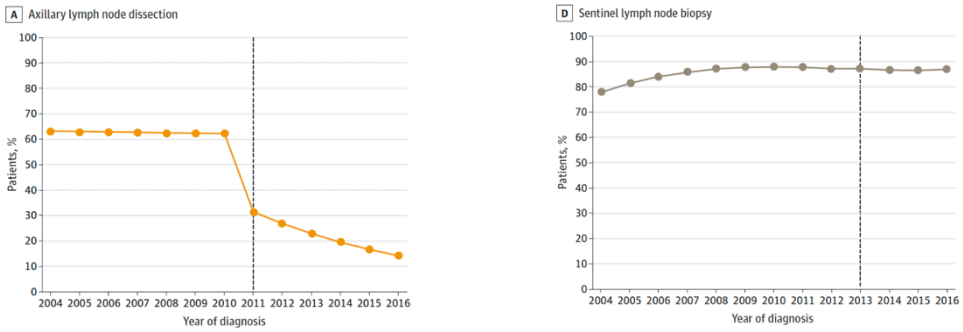
(adapted from the Tailored Implementation for Chronic Disease (TICD) Checklist)

Deciding what to de-implement requires an evaluation of the evidence base supporting de-implementation. Recommendations supported by randomized controlled trials and/or meta-analyses are excellent targets for de-implementation. Consider these questions:

a. What is the quality of the evidence supporting the recommendation and has it been assessed appropriately?
b. Is the recommended action (what to avoid or not do) stated specifically and unambiguously? Is sufficient detail provided to allow the targeted healthcare professional to perform the recommended action?
c. Do the organizations who made the recommendation have credibility with the targeted healthcare professionals?
d. Is the recommendation consistent with other guidelines?

2. Evaluate Current Practice

Deciding what to de-implement requires an evaluation of current practice as compared to the ideal practice or evidence. Some low-value practices may be infrequently performed due to natural de-implementation while others may be frequently performed and deeply entrenched. Formal de-implementation efforts should be focused on low-value practices that are common or harmful.



Practice A (axillary lymph node dissection) was rapidly and nearly completely de-implemented after dissemination of evidence in 2011 (dotted line). Practice D (sentinel lymph node biopsy) is common, and rates were not affected by dissemination of evidence supporting omission in 2013 (dotted line). (Wang T and Dossett LA. JAMA Surgery 2019).

3. Consider Stakeholders

Deciding what to de-implement requires consideration of the relative strength of opinions and stakeholders. De-implementation efforts targeting low-value practices without strong detractors (i.e., unnecessary routine labs or imaging) are more likely to be successful as compared to those practices where stakeholders may hold strongly held beliefs or differing views of value (i.e., contralateral prophylactic mastectomy in patients with breast cancer).

Advancing Research on Sustainability and Health Equity in Implementation Science

Rachel C. Shelton, ScD, MPH

Abstract

This Keynote will focus on opportunities within implementation science to advance research on sustainability, with explicit consideration of how to do so with a focus on promoting health equity. Sustainability has been identified as one of the most important yet challenging translational research areas we face in implementation science. This presentation will highlight: 1) conceptual, measurement, and methodological issues and recommendations in studying sustainability; 2) multilevel factors that influence the sustainability of interventions across a range of diverse public health, community, and healthcare settings and populations; 3) frameworks, tools, and resources that are useful for guiding research in this area and planning for sustainability; and 4) applied examples and key opportunities to advance research on sustainability with explicit attention to the connections between sustainability and health equity.

Learning Objectives:

1. Define sustainability and some key considerations in its conceptualization and measurement
2. Explain why sustainability is important from the perspective of key partners
3. Identify key multi-level factors that impact sustainability across diverse settings/populations
4. Discuss practical considerations for tracking and planning for sustainability
5. Describe one or more tools or frameworks to actively plan for sustainability
6. Discuss the connection between sustainability and equity

Notes

Advancing Research on Sustainability and Health Equity in Implementation Science

Rachel C. Shelton, ScD, MPH

This Keynote will focus on opportunities within implementation science to advance research on sustainability, with explicit consideration of how to do so with a focus on promoting health equity. Sustainability has been identified as one of the most important yet challenging translational research areas we face in implementation science. This presentation will highlight: 1) conceptual, measurement, and methodological issues and recommendations in studying sustainability; 2) multilevel factors that influence the sustainability of interventions across a range of diverse public health, community, and healthcare settings and populations; 3) frameworks, tools, and resources that are useful for guiding research in this area and planning for sustainability; and 4) applied examples and key opportunities to advance research on sustainability with explicit attention to the connections between sustainability and health equity.

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- Shelton, R.C., Chambers D., Glasgow R. (2020). An Extension of RE-AIM to Enhance Sustainment: Addressing dynamic context and promoting health equity over time. *Frontiers Pub Health.*
- Shelton, R. C., Charles, T.-A., Dunston, S. K., Jandorf, L., & Erwin, D. O. (2017). Advancing understanding of the sustainability of lay health advisor (LHA) programs for African-American women in community settings. *Translational Behavioral Medicine*, *7*(3), 415–426.
- Shelton RC, Brotzman L, Johnson D, Erwin D. (2021). Trust and mistrust in shaping adaptation and de-implementation in the context of changing screening guidelines. *Ethnicity & Disease. Special Issue on Social Determinants of Health and Implementation Research: Three Decades of Progress and a Need for Convergence.*

Key Points and Questions: Sustained delivery and impact of evidence-based interventions is a considerable challenge across range of complex real-world public health and healthcare settings. If we are to have an equitable impact on population health, build trust, and make best use of funding and resources, it is critical that we reflect on our existing evidence base and proactively assess and plan for sustainment from the outset. Adaptations to interventions and strategies may be essential for sustainability, in response to dynamic contexts, changing population needs, and evolving scientific evidence; this may be particularly critical for settings and populations that experience numerous structural barriers to health. Engaging key partners is important for informing meaningful conceptualization and assessment of sustainability, and advancing understanding of the value and return on investment of sustainability for diverse partners and systems. Existing frameworks can help with assessment to better understand determinants of sustainability across diverse settings, and can inform the development, planning, and evaluation of sustainability strategies to address identified challenges. Pragmatic tools and resources in the field can be used to continuously and explicitly track where and when challenges to sustainability and equity arise along the implementation continuum, with the goal of actively understanding and addressing such gaps.

1. What is the value and importance of sustainability from the perspective of key partners?
2. What is the connection between sustainability and health equity and why is it important for us to prioritize both in implementation science?
3. How are the factors that matter for sustainability similar and different than those that matter for implementation? What are the specific considerations and determinants of sustainability for settings and populations experiencing structural barriers to health/healthcare?
4. How can we proactively track and plan for sustainability up front, and with an explicit focus on actively promoting health equity?

Advancing Research on Sustainability and Health Equity in Implementation Science

Rachel C. Shelton, ScD, MPH

Recommendations to guide planning, adaptation, and measurement when applying RE-AIM to facilitate sustainability with a focus on context and equity, with example hypotheses.

Recommendation 1: Extending/Reframing "Maintenance" in RE-AIM to Include Recent Multidimensional Conceptualizations of Sustainability as longer-term outcome over time.

Example: Hypothesis: *Informed by a broadened, longer-term conceptualization of sustainability, the dose and nature of implementation strategies needed to initially implement an EBI will differ from the strategies needed to sustain an EBI over time (e.g. implementation strategies focused on sustainability may relate to providing proactive planning and ongoing evaluation/monitoring to manage likely changes in the implementation setting, including turnover, EHR upgrades, treatment guideline updates, changes in patient population).*

Recommendation 2: To Facilitate Sustainability and Equity, Planned Adaptations & Evolutions Must Be Made Across the Life Cycle of EBIs & implementation strategies to Respond to Changing Needs, Context, & Evidence, & may include De-implementation.

Example Hypothesis: Settings that maintain core functions of EBIs but include proactive, planned, iterative adaptations to intervention components and implementation strategies in response to changing context and needs will be sustained longer than those that do not, and will have greater impact on reducing health inequities.

Recommendation 3: Mixed-Methods Assessment and Feedback on RE-AIM Indicators as an Iterative Method to Guide Adaptations, in partnership with stakeholders.
Example Hypothesis: Programs that iteratively assess and address RE-AIM dimensions over time to guide their sustainability planning and adaptations will have stronger sustainability outcomes (e.g. higher levels of continued delivery of EBI; higher levels of sustained behavior change across population groups) than those that do not.

Recommendation 4: Other Sustainability Frameworks or Determinants Frameworks Can Be Integrated With RE-AIM to Understand Key Sustainability Determinants.

Example Hypothesis: Programs that explicitly address multi-level contextual determinants of sustainability will produce higher levels of sustainability and equity than those that do not.

Recommendation 5: *Equity (both equitable implementation across RE-AIM dimensions and health equity) and costs/value are important and understudied cross-cutting issues across all RE-AIM dimensions that impact sustainability.*

Example Hypotheses: 1) Programs that explicitly and repeatedly assess health equity and equitable implementation, and make iterative adjustments guided by RE-AIM will produce higher levels of sustainability than those only considering equity at the planning stage. 2) Programs that consider and monitor costs (and RE-AIM outcomes), 'return on investment' over time, and discuss and act on these assessments in partnership with stakeholders will produce stronger sustainable outcomes than those that do not.

Iterative application and operationalization of RE-AIM for Sustainment, with focus on health equity and dynamic context over time

Reach	*Indicators:* Number, proportion, representativeness of individuals who participate in EBI. *Key Questions:* Who was the intended audience and who actually participated. Why or why not? How can we better reach them?

	Health Equity Considerations: Are all populations equitably reached by the EBI? Who is not reached by the EBI (in terms of a range of social dimensions) and why? How can we better reach those who are not receiving the EBI and ensure we are reaching those who experience inequities related to social dimensions/social determinants of health (SDOH)? *Sustainability Considerations:* Who continues to not be reached by the EBI at various time points over time? (Why or why not?
Effectiveness	*Indicators:* The impact of an intervention on important health behaviors or outcomes, including QOL and unintended negative consequences; consider heterogeneity of effects. *Key Questions:* Is the EBI effective? For whom? Any negative effects? *Health Equity Considerations:* Are the health impacts experienced equitable across all groups on the basis of various social dimensions- why or why not? Do certain groups experience higher levels of burdens? *Sustainability Considerations:* Does the EBI continue to be effective at various time points over time? Among whom?
Adoption	*Indicators:* The number, proportion, and representativeness of: a) settings; and b) staff/interventionists who deliver the program, including reasons for adoption or non-adoption across settings and interventionists. *Key Questions:* Where was the EBI applied and by who? Which sites/staff were invited and which excluded? Which participated and not? Why? How can I support the setting/context/staff to deliver the EBI? *Health Equity Considerations:* Did all setting equitably adopt the EBI? Which settings and staff adopted and applied the EBI? Which did not and why? Were low-resource settings able to adopt the EBI to the same extent that higher-resource settings? *Sustainability Considerations:* Which settings/staff continue to deliver the EBI over time? Which do not and why?
Implementation	*Indicators:* At multiple setting and staff levels, continued and consistent delivery of the EBI as intended (fidelity), as well as adaptions made and costs of implementation *Key Questions:* Was the EBI delivered consistently- why or why not? How was it be adapted and how did this impact sustainability? How much did it cost? How can we ensure the key functions of the EBI are delivered? *Health Equity Considerations:* Was the EBI equitably delivered across settings/staff? Which settings/staff successfully delivered the EBI and implementation strategies and which did not and why? Do all settings/staff have the capacity and resources to deliver the EBI on an ongoing basis? What adaptations might be needed to promote equity and address SDOH? *Sustainability Considerations:* How do we ensure that the EBI continues to be delivered consistently over time, especially in the context of reduced funding? Are certain implementation strategies more likely to sustain EBIs and have sustained impact than others?
Maintenance/ Sustainability	*Indicators:* Extent to which (*a*) health impact/benefits and behaviors continue for patients/consumers; (*b*) program activities or core elements/functions of the original intervention (and strategies) continue at setting/staff level, as well as adaptations made to the EBI; (*c*) sustainability capacity and infrastructure (partnerships, networks, coalitions) for delivering EBI are developed and maintained; and when applicable, (d) institutionalization, or extent to which EBI becomes part of routine organizational practices/policies (when considered dynamically over time) (all above

measured initially 6 months after initial implementation and at least 1 year post EBI implementation and on ongoing basis). Includes proportion and representativeness of settings that continue EBI and reasons why/not.

Key Questions: What sustainability strategies can we use sustain the program long-term beyond 1 year after implementation and longer? What are the costs and return on value of sustainability? How can we support and incorporate the EBI so it is delivered past initial implementation?

Health Equity Considerations: Is the EBI being equitably sustained? What settings and populations continue to be reached long-term by the EBI and continue to receive benefits over time- why or why not? Do adaptations to EBIs reduce or exacerbate health inequities over time? Do all settings have continued capacity and partnerships to maintain delivery of EBIs? Are the determinants of sustainability the same across low-resource and high-resource settings? How do social determinants of health shape inequitable implementation and sustainability of EBIs over time?

Sustainability Considerations: As the program continues and the context and evidence changes, what adaptations (to the program, strategies, and setting) are needed to continue delivering the EBI long-term? Are there opportunities to build capacity at sites with low maintenance to promote longer-term sustainability? What would it take for sites to sustain the EBI over the long term? What are key multi-level barriers to continued program sustainability over time among a range of stakeholders? What are factors or strategies that might support continuation of the program? Over time as evidence changes, is de-implementation of some program elements a more appropriate outcome than continued delivery of the program? Are there certain sustainability strategies that are effective at maintaining EBI impact and delivery over time?

Citation: Shelton, R.C., Chambers D., Glasgow R. (2020). An Extension of RE-AIM to Enhance Sustainment: Addressing dynamic context and promoting health equity over time. Frontiers Pub Health

CONDUCTING A SUSTAINABILITY ASSESSMENT, INFORMED BY THE INTEGRATED SUSTAINABILITY FRAMEWORK *(Adapted from Shelton RC & Nathan N 2021; Chapter on Sustaining Evidence-Based Interventions in 'Practical Implementation Science')*

Domain	Questions to Consider
Outer/Policy Context	- What **policies, regulations, and social norms** are in place that may have implications for sustainability? - What's the **broader funding environment** like and are there external funds that could help sustain the EBI? - Are there **external partnerships (with government agencies, healthcare systems, community-based organizations)** that can help bring resources, support, and commitment to sustain the EBI? - How does EBI align with **national, state, local priorities**?
Inner/Organizational Context	- Are there **program champions** (community and organizational) who can help influence sustained delivery of the EBI? - Does the EBI have **support from organizational leadership**? - Within the organization, is there **organizational infrastructure** (time, financial resources, space) to support the EBI? How 'ready' is the organization? - How are **stakeholders continually engaged** related to EBI delivery?

Implementation Processes	- Are there processes in place to support the **recruitment and retention** of staff involved with EBI delivery? - Are there **supervision and training** processes in place to support EBI delivery among staff over time? - Are there processes in place or that could be added to **track or monitor data** on health impact of EBI or its delivery? - Is there **strategic planning** about sustaining the EBI (e.g. grant writing, communications)?
Implementer and Population Characteristics	- Do the implementers have the **self-efficacy** to deliver the EBI over time? - What are some of the **benefits and challenges** that implementers might experience in delivering the program over time? - What are the **attitudes** of the implementers towards the EBI? - What **characteristics or experiences of the population** served might impede sustainability (e.g. stigma, mistrust, literacy, poverty, experiences of discrimination)?
EBI Characteristics	- How **adaptable** is the EBI? - How **costly** is the EBI? Is there a return on investment? - How well does the **EBI 'fit'** within the organizational context? - Does the EBI continue to **address a priority or need** in the community?

OVERARCHING QUESTIONS TO CONSIDER REGARDING SUSTAINABILITY OF EBIS
(Adapted from Shelton RC & Nathan N 2021; Chapter on Sustaining Evidence-Based Interventions in 'Practical Implementation Science')

1. Do I have a clear sense of the evidence-based practice/program and its core components and intended health impact?	● Reach out to implementers (and possibly program developers) to access program materials and description
2. Have I worked with stakeholders to determine what 'counts' as sustainability of the EBI?	● Revisit conceptualizations of sustainability and discuss with stakeholders the advantages and disadvantages of various approaches (e.g., sustained use of EBI with fidelity? Maintenance of partnerships? Continued impact on health behaviors/outcomes?) ● Consider the extent to which adaptations of EBIs are tracked, to understand their impact and how the EBI changes over time based on changing needs, evidence, and context. Consider tracking the extent to which such adaptations may reduce or exacerbate health inequities.
3. Have I started to think about or plan for sustainability during the implementation phase or determine who will be involved in sustainability efforts?	● Apply planning tools (e.g., Program Sustainability Assessment Tool or Clinical Sustainability Assessment Tool) or sustainability frameworks that help identify potential barriers and facilitators to consider and address specifically related to sustainability (e.g., Integrated Sustainability Framework, EPIS).
4. Do I have a plan for measuring or assessing or monitoring sustainability over time?	● Consider existing planning or evaluation tools (e.g., RE-AIM framework) and determine the time period when sustainability will be assessed (e.g., 6 months post implementation and annually over the next five years); if possible, assess using both qualitative and quantitative sources of information. Are there indicators of institutionalization that help inform understanding of sustainability (e.g. are staff roles and program costs included as part of annual budget)?
5. Have I considered delivering strategies to better support sustainability?	● Think about linking identified barriers to sustainability with strategies that could address them. ● Provide opportunities to obtain feedback from stakeholders on how well they are working (are they feasible, acceptable, appropriate), so they can be iteratively refined as needed.

Abbreviations: EBI = evidence-based intervention; EPIS = exploration, preparation, implementation, sustainment; RE-AIM = reach, effectiveness, adoption, implementation, maintenance

Scaling Up and Out: Increasing the Uptake of Built Environment Approaches in Community Settings

Laura Balis, PhD

Abstract

Changing the built environment to facilitate active transportation and increase access is recommended to increase physical activity levels. Yet, implementing these complex interventions in community settings is challenging. This session will detail methods to assess barriers and facilitators to built environment approaches and select relevant implementation strategies in two state Cooperative Extension Systems, and next steps for scaling out to additional community organizations through rapid methods.

Learning Objectives:

1. Become familiar with using the Implementation Research Logic Model to link determinants to implementation strategies and outcomes
2. Understand multiple approaches to assessing implementation determinants through implementation theories, models, or frameworks
3. Describe methods for rapid scale-out of implementation strategies to new delivery systems

Notes

Scaling Up and Out: Increasing the Uptake of Built Environment Approaches in Community Settings

Laura Balis, PhD

Key Points

1. In the national land grant university Cooperative Extension system, contextual factors differ by state.
2. Built environment interventions are new to this system, and implementation strategies are needed to improve uptake.
3. Two different methods were used to assess contextual factors and select relevant implementation strategies.
4. Future studies can build on this research by identifying common and unique barriers to implementing built environment approaches in other community settings.

Thought Questions

In future projects:

1. How will you assess implementation determinants (i.e., contextual factors, barriers/facilitators)? What rapid, rigorous approaches are feasible?
2. What methods will you use to select and tailor implementation strategies?

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Recommended Resources and Tools

RE-AIM Framework

Implementation Research Logic Model Template

Consolidated Framework for Implementation Research: Interview Guide Tool

Consolidated Framework for Implementation Research – Expert Recommendations for Implementing Change Strategy Matching Tool

A Systems Approach to Scale-up for Population Health Improvement

Harriet Koorts, PhD

Abstract

Despite many important global public health successes, for many public health problems there is a continued lack of interventions that have been sufficiently scaled up to achieve sustainable and equitable population health improvement. Implementation science approaches have dominated the scale up literature, which typically promote a sequential and mechanistic spread of interventions. Systems change plays a major role in the relation between implementation processes and institutionalization of public health interventions; yet systems approaches remain underutilized in scaling up. This presentation will present evidence from scaled up physical activity and nutrition interventions, to illustrate why reorientating the scale-up discourse to embrace a complex systems perspective has the potential to improve sustainable implementation and impact of population interventions..

Learning Objectives:

1. Increase understanding of how a systems approach to scale-up can help identify who (actors) in the system has influence and how this impacts scaling up

2. Demonstrate ways of planning for and evaluating scale-up projects that can help identify strategies to influence favourable outcome at scale

Notes

A Systems Approach to Scale-up for Population Health Improvement

Harriet Koorts, PhD, MSc, BSc (Hons)

Presentation summary

Despite many important global public health successes, for many public health problems there is a continued lack of interventions that have been sufficiently scaled up to achieve sustainable and equitable population health improvement. Implementation science approaches have dominated the scale up literature, which typically promote a sequential and mechanistic spread of interventions. Systems change plays a major role in the relation between implementation processes and institutionalization of public health interventions; yet systems approaches remain underutilized in scaling up. This presentation will present evidence from scaled up physical activity and nutrition interventions, to illustrate why reorientating the scale-up discourse to embrace a complex systems perspective has the potential to improve sustainable implementation and impact of population interventions.

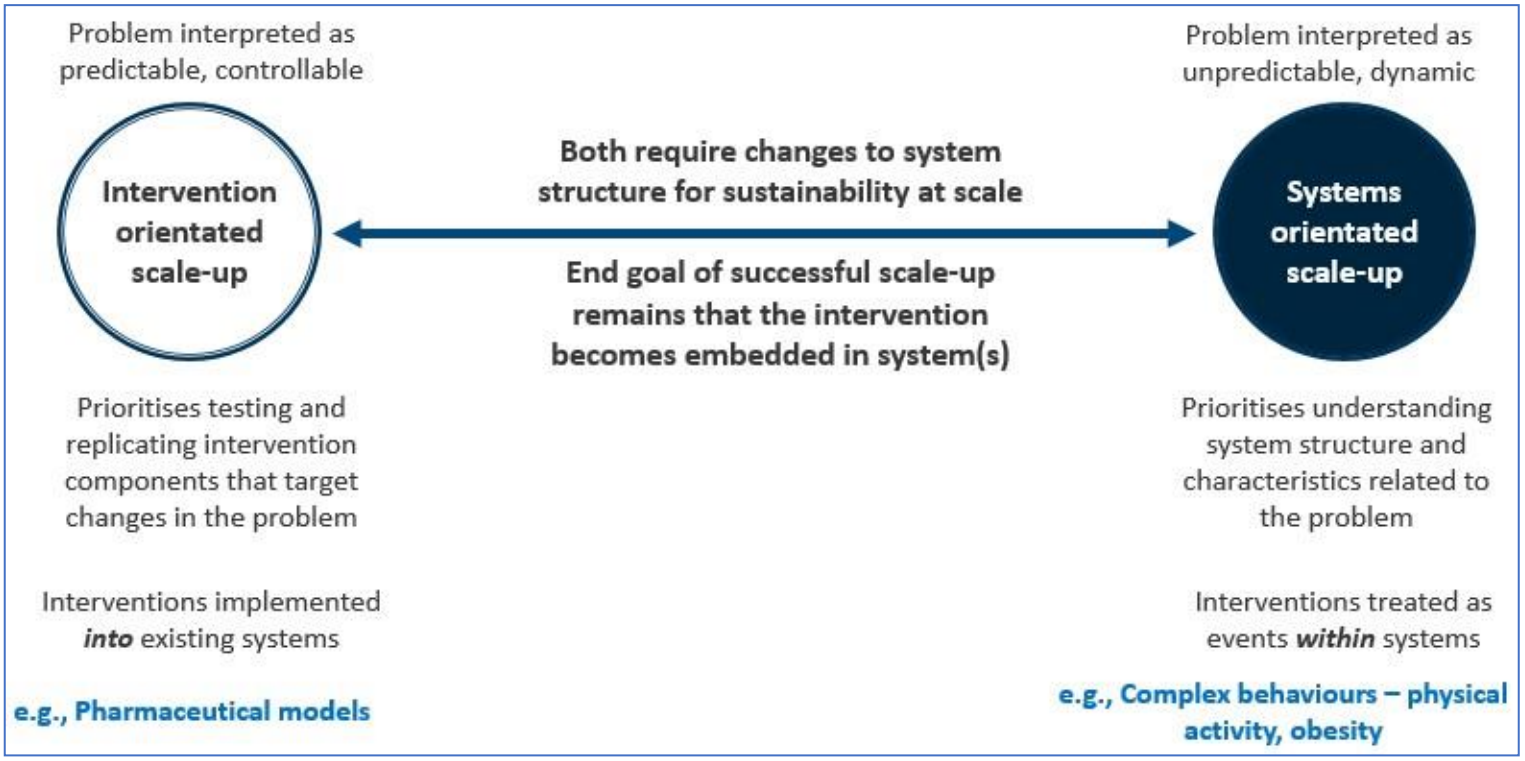
A systems approach to scale-up:

*"an approach that prioritises the **behaviour and function of the system**, with a focus on **relations between a number of system elements**, using system-level levers and **dynamic system changes** to drive impact at scale"* Koorts & Rutter (2021)

An intervention-orientated approach to scale-up:

"*an approach that aims to **widen intervention reach** into existing systems and adheres to a predefined protocol for **linear expansion and replication** in other settings, which can involve scaling any number of elements to reproduce intervention effects*" Koorts & Rutter (2021)

The scale-up spectrum:



Thought questions:

1. How might I apply this to my work?
2. What partners might I engage?
3. What systems might I use?

Recommended reading: An integrated research-practice partnership in Australia

- Wolfenden L, Yoong SL, Williams CM, et al. Embedding researchers in health service organizations improves research translation and health service performance: the Australian Hunter New England Population Health example. *Journal of Clinical Epidemiology.* 2017;85:3-11.

Practical application of a systems approach to scale-up: Denver Health

- A transformation initiative at Denver Health - a large, integrated, urban, safety-net system
- A ''radical redesign project,'' aiming at ''improved patient safety and satisfaction, efficiencies and cost reductions, and job satisfaction''
- The system-wide implementation project identified **health system capacity** for innovation as a **key systems-level driver** for sustainable intervention implementation.

Alignment with a systems approach to scale-up definition[1]	Denver Health redesign[2]
The '**system's behavior and function**'	A core focus of the Denver Health system redesign was on the antecedent capacities of the health system (i.e., organizational capacity for implementing change, service capacity for infrastructure expansion)
The '**relations between system elements**'	Understanding previous system behaviours and activities (i.e., historical outcomes of system changes led to a reduction in resistance by stakeholders)
Understanding how '**dynamic system changes affect intervention expansion, embeddedness and impact**'	Embedding project and system performance metrics enabled tracking of system wide outcomes. This provided feedback to inform modifications to ongoing implementation.

Source: [1]Koorts, H. & Rutter, H. A systems approach to scale-up for population health improvement, *Health Research Policy and Systems* 2021; 19:27. [2]Harrison MI, Kimani J. Building capacity for a transformation initiative: system redesign at Denver Health. *Health Care Manage Rev*. 2009;34(1):42–53.

Additional resources

- **Pfotenhauer et al.** (2021) The politics of scaling
- **Zamboni et al.** (2019) Assessing scalability of an intervention: why, how and who?
- **Bulthuis et al.** (2019) Factors influencing the scale-up of public health interventions in low- and middle-income countries: a qualitative systematic literature review
- **Paina et al.** (2012) Understanding pathways for scaling up health services through the lens of complex adaptive systems
- **Woltering et al.** (2019) Scaling – from "reaching many" to sustainable systems change at scale: A critical shift in mindset
- **Milat et al.** (2020) Intervention Scalability Assessment Tool: A decision support tool for health policy makers and implementers
- **Lane et al.** (2021) How effective are physical activity interventions when they are scaled-up: a systematic review
- **Zomahoun et al.** (2019) The pitfalls of scaling up evidence-based interventions in health

Thinking in systems: Characterising parameters of the implementation setting using the PRACTIS Guide (Source: Koorts et al. IJBNPA.15(1), 51. 2018)

PRACTIS Guide is:

- Used to develop partnerships with systems that will ultimately apply research findings within practice
- Draws on existing models and frameworks to address *how* to plan for implementation and scale-up during intervention development, testing and ongoing adaptation
- Aimed at those with **varying levels of implementation experience and expertise**
- **Four step process that are not mutually exclusive.** The process is iterative and will reflect learnings from implementation efforts. Steps may occur sequentially, include overlapping activities and/or in a different order

The purpose of *Step 1* is to predict and describe features of the potential implementation setting, pinpointing gaps in the planning process.

Activity: Complete the checklist questions below in your teams – Are there gaps? What are they? Can they be resolved, monitored or impact measured?

Table 1 Checklist considerations when characterizing implementation setting parameters (Step 1)

Level	Characteristics	Process of intervention adoption and delivery	Sustainability
Intervention population (Individual level)	1. Who will access the intervention? What is the size of the target population? Are there participation eligibility criteria (i.e. age)? Are there subgroups that experience disparities in physical activity?	2. How will the target population access/be recruited into the intervention? What will motivate or incentivize them to take part? How will you ensure equity of access for disadvantaged subgroups?	3. How will retention be supported and monitored? How will you ensure those who may be at higher risk of attrition will be retained and how will this be monitored?
Implementers (Provider level)	4. Who will deliver the intervention? How many implementers will be required? Are there eligibility criteria to deliver the intervention (i.e. level of skill, knowledge, education)?	5. How will implementers be identified/engaged and trained? What will motivate or incentivize them to implement the intervention? How will you facilitate engagement with disadvantaged groups?	6. How will implementers be supported (i.e. ongoing training, performance feedback, champions) to sustain intervention fidelity and delivery? How will you prepare for sustainability in lower-resourced settings?
Delivery setting/org. (Organizational level)	7. What is the target delivery setting(s) (i.e. setting, size) and are there eligibility criteria for adoption (i.e. possess certain resources)? How will you engage settings that provide services to disadvantaged subgroups?	8. How will target delivery settings be identified and be made aware of the intervention? What will motivate or incentivize the setting to adopt and implement the intervention?	9. Who will take ownership of the intervention and how will adoption, delivery, impact, and sustainability be monitored? How will start-up and ongoing costs be considered when planning for sustainability and implementation at scale?
Environment/ context (Community/ systems level)	10. What are the key characteristics of the target community (i.e. built environment infrastructure, low-high income)? How will you engage communities with disadvantaged subgroups?	11. How will characteristics of the community (i.e. funding and political climate, readiness for implementation) influence dissemination, implementation and scale-up? How will community accountability for implementation be generated and assessed?	12. Who at the community/systems level will be responsible for the intervention? Are there individual or organizational champions for intervention implementation that could help to plan for sustainability?
Intervention factors: (All levels)	13. What is the intervention design (i.e. strategies, underlying principles, delivery format, duration, resources required)? What are the core and adaptable elements (i.e. flexibility)? Which elements may/may not be scalable? How simple/complex is the design and what relative advantage does the intervention provide?	14. How will the intervention and plans for implementation, be developed so they align with organizational missions, values and infrastructure (i.e. size, resource availability)? How will the intervention integrate into existing individual and organizational practices (i.e. setting compatibility)?	15. How will the intervention and associated costs and resources for delivery (i.e. materials) be sustainably funded? How will intervention implementation processes (i.e. setting/staff training) be integrated into organizational policies and job descriptions? How will implementation capacity be developed and sustained at scale?

(Source: Koorts et al. IJBNPA.15(1), 51. 2018)

Pragmatic Measurement of Sustainment

Joanna Moullin, PhD; Nicole Stadnick, PhD, MPH

Abstract

Sustainment has been comparatively less examined than other implementation phases. The concept has also been referred to by varying terms including sustainability, maintenance, continued use, and long-term implementation. In this session, we focus on the concept of "sustainment," defined as an outcome indicating that an intervention was continued over time. From this definition, we provide an overview of a recent narrative review of sustainment measures, highlight the gaps and opportunities in sustainment measurement, and describe the development and validation of a new 3-item, provider-report scale of evidence-based practice sustainment. The session will close with an interactive exercise that invites audience members to critically evaluate an implementation case study and discuss key considerations for selecting sustainment measures.

Learning Objectives:

1. To provide a narrative review of pragmatic measures of sustainment.
2. To describe the development and validation of a new provider-report measure of sustainment (PRESS).
3. To discuss key considerations for incorporating measures of sustainment into implementation research/projects

Key Considerations for Selecting Sustainment Measures

1. What aspects of sustainment matter most to your stakeholders or constituents?
    a. Are the continued benefits/effects of the EBP most important?
    b. Is continued provider use of the EBP most important?
2. Does the project/study design afford opportunities for follow-up assessments?
3. What resources (including what stakeholders) are available to examine sustainment?

Recommended References and Resources

- Narrative Review of Sustainment Measures https://doi.org/10.1186/s43058-020-00068-8
- Provider Reported Sustainment Scale (PRESS) https://doi.org/10.1186/s13012-021-01152-w
- EPIS Framework www.episframework.com
- Dissemination and Implementation Grid-Enabled Measures database initiative (GEM-D&I) https://www.gem-beta.org/public/wsoverview.aspx?cat=8&aid=0&wid=11
- Society for Implementation Research Collaboration (SIRC) Instrument Project http://www. societyforimplementationresearchcollaboration.org/sirc-projects/sirc-instrument-project/

Notes

Scale-up Outcomes and Operationalization

Cole Hooley, PhD, LCSW

Abstract

This session will present a system thinking perspective of scale-up. We created a causal loop diagram based on our review of the scale-up framework literature. Then we created a hybrid causal loop diagram/simulation model. Using the models, we will describe key scale-up outcomes and ways they can be operationalized. We will also describe other factors that influence scale-up

Learning Objectives:

1. Attendees will be able to describe three key scale-up outcomes
2. Attendees will be able to describe ways to operationalize the scale-up outcomes
3. Attendees will be able to identify other factors that influence scale-up

Notes

Scale-up Outcomes and Operationalization

Cole Hooley, PhD, LCSW; Katherine Marcal, PhD, MSW

Scale-up conceptual definition

"Deliberate efforts to increase the impact of innovations successfully tested in pilot or experimental projects so as to benefit more people and to foster policy and program development on a lasting basis" [1]

Scale-up outcomes operationalized[2,3]

Contact coverage = proportion of the target population served

Effective coverage = proportion of the target population who improve

Equity = demographic/other group indicators of population served and improved compared to target population

Broad scale-up conceptual domains[4]

Resource team

Scale-up approach

Scale-up strategies

Adopters

Intervention

Recipients

Cost

Research

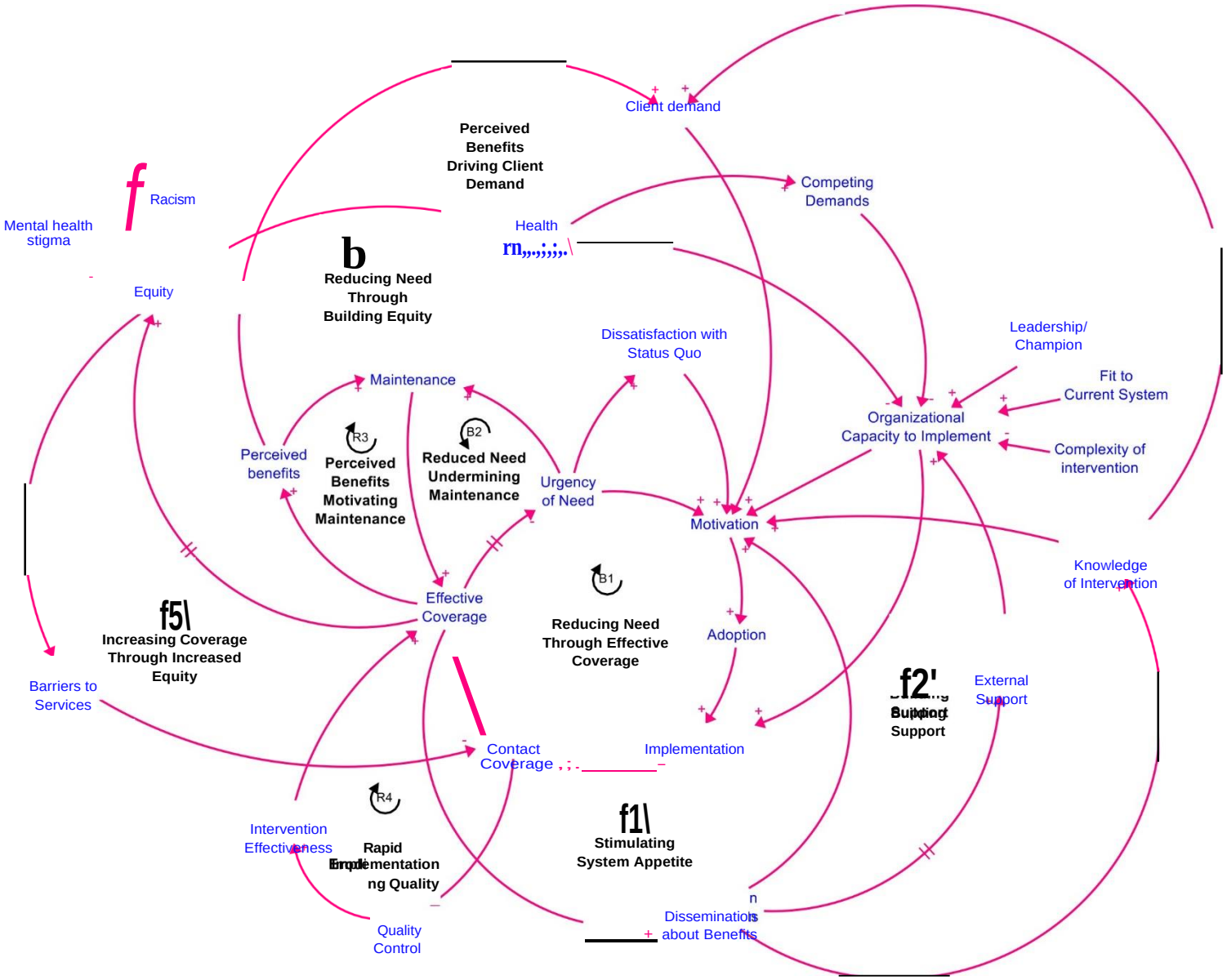
Push/pull factors

Sociopolitical context

Unit of analysis

Scalable unit = "the smallest representative facsimile of the system targeted for full-scale implementation"[5]

Scale-up CLD


Client demand
Perceived Benefits Driving Client Demand
Racism
Mental health stigma
Health
Competing Demands
Reducing Need Through Building Equity
Equity
Dissatisfaction with Status Quo
Leadership/ Champion
Maintenance
Fit to Current System
Organizational Capacity to Implement
Complexity of intervention
Perceived benefits
R3
Perceived Benefits Motivating Maintenance
B2
Reduced Need Undermining Maintenance
Urgency of Need
Motivation
Knowledge of Intervention
B1
Effective Coverage
Reducing Need Through Effective Coverage
Adoption
Increasing Coverage Through Increased Equity
Barriers to Services
External Support
Contact Coverage
Implementation
R4
Intervention Effectiveness
Rapid Implementation
Stimulating System Appetite
Quality Control
Dissemination about Benefits

Reflection discussion

What is an intervention/service you are interested in scaling-up?

Who is the target population for the intervention?

What does at full-scale look like for the intervention?

What data source(s) are available about the target population?

What data source(s) are available about the utilization of the intervention? Of clinical improvement? Characteristics of recipients?

What is the scalable unit for the intervention?

References

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Notes

About ACCORDS

Adult and Child Center for Outcomes Research and Delivery Science

The Adult and Child Center for Outcomes Research and Delivery Science (ACCORDS) encompasses T3-T4 research across the life spectrum for the University of Colorado (CU) Anschutz Medical Campus, with infrastructure support provided jointly from the Dean's Office of the School of Medicine and Children's Hospital Colorado (CHCO). The program was first established in 1998 as the Colorado Health Outcomes program (COHO). In 2014, COHO merged with the Children's Outcomes Research (COR) program, with **Allison Kempe, MD,** named the Program Director. The name highlightsthe focus on the entire life spectrum as well as on "delivery science," encompassing comparative effectiveness, patient-centered outcomes, and dissemination and implementation research.

ACCORDS is a group of investigators from multiple disciplines. Some have primary offices on campus, while a much larger group maintain off-site research homes. Currently, over 50 investigators, 15 biostatisticians/analysts, 39 research assistants, four instructors, and 11 administrative personnel have office space with ACCORDS. In FY2019, 32 grants were awarded totaling $14 million, reflecting a 38 percent success rate for submitted proposals. ACCORDS provided 490 consultations to 28 departments/division in the School of Medicine and assisted with 63 faculty recruitments. ACCORDS houses two fellowship programs focusing on primary and subspecialty clinician scientists, and currently hasa K12 training grant focused on dissemination and implementation science. During FY2019, ACCORDS hosted four seminar series, two distinguished lecturers, and four educational workshops.

ACCORDS brings together T3-T4 researchers from across the CU Anschutz campus. Collaborating investigators represent all School of Medicine departments, as well as the Colorado School of Public Health, the Skaggs School of Pharmacy and Pharmaceutical Sciences, and the College of Nursing. ACCORDS also has strong research affiliations with the Colorado Clinical and Translational Sciences Institute (CCTSI), Denver Health, Kaiser Permanente, U.S. Department of Veterans Affairs, Colorado Department of Public Health and Environment, and the Colorado Department of Health Care Policy andFinancing. ACCORDS is as an incubator for research ideas, fosters interdisciplinary collaboration, and develops focused areas of research of national prominence.

The mission of ACCORDS is to improve health, locally and nationally, by supporting state-of-the-artoutcomes and community translational research to guide clinical practice and health policy.

The objectives of ACCORDS are to:

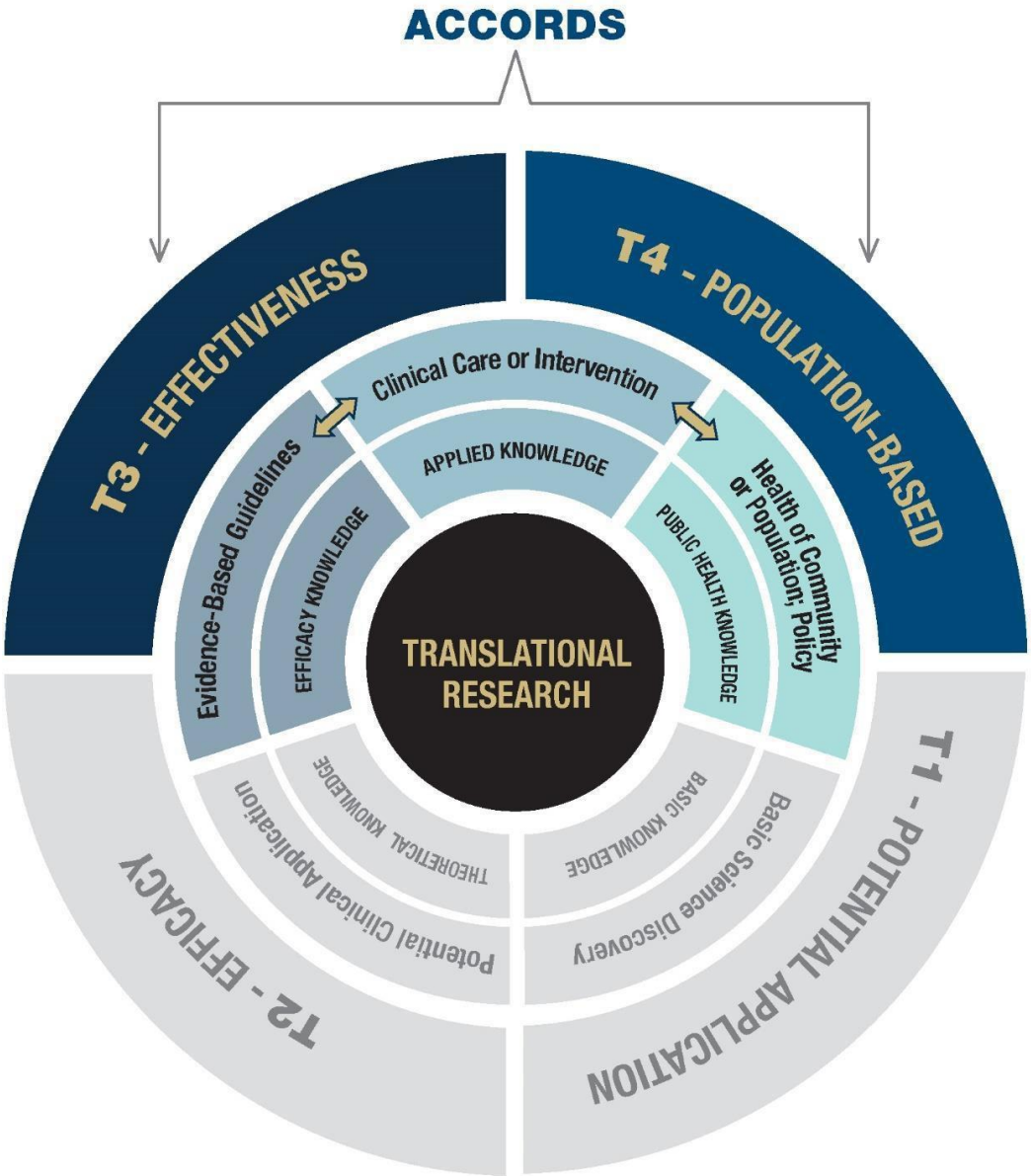
- Increase competitiveness of the School of Medicine/CHCO for funding from multiple research, education and training program sponsors, especially Patient-Centered Outcomes Research Institute,Agency for Healthcare Research and Quality, and the National Institutes of Health
- Strengthen affiliations with key external partners, including Denver Health, U.S. Department of Veterans Affairs, Kaiser Permanente, and the Colorado Department of Public Health and Environment, toincrease access to populations and collaborators necessary for certain grants
- Improve faculty development for both senior and junior faculty interested in outcomes and delivery research by providing an interdisciplinary home for developing research, a mentored training ground, andsubstantial educational activities

- Improve the ability of the School of Medicine/CHCO to recruit senior and junior faculty interested inhealth outcomes, health services research, dissemination and implementation science, comparative effectiveness, and patient-centered outcomes research
- Achieve greater national visibility for the School of Medicine/CHCO as leaders in the areas of healthoutcomes, dissemination and implementation science, comparative effectiveness research, and training

ACCORDS is organized into programmatic areas: (1) Dissemination and Implementation Science; (2) Education; (3) Research Training and Mentorship; (4) Patient-Centered Decisions; (5) Data Science, and
(6) Community Engagement and Outreach.

ACCORDS also has methodological cores in qualitative and mixed methods, practice-based research networks, biostatistics and analysis, economic analysis, and health informatics/mobile health. These coresprovide support to the programmatic areas and consultative support to investigators. A major focus of these cores is to provide support for the development of new projects and grant proposals.

For more information, please visit [https://medschool.cuanschutz.edu/accords.](https://medschool.cuanschutz.edu/accords)



About CCTSI

The Colorado Clinical and Translational Sciences Institute (CCTSI)

Accelerating Research to Improve Health

A collaboration between the University of Colorado Anschutz Medical Campus, the University of Colorado Denver, the University of Colorado Boulder and Colorado State University, the CCTSI includes six affiliated hospitals and health care organizations as well as multiple community organizations--all with the goal of building resilient research teams of the future and accelerating the translation of research discoveries into improved patient care and public health. The CCTSI partner health care institutions include University of Colorado Hospital, Children's Hospital Colorado, National Jewish Health, Denver Health and Hospitals, Denver Veterans Affairs Medical Center and Kaiser Permanente Colorado.

The CCTSI is a National Institutes of Health (NIH/NCATS)-funded research institute at CU Anschutz. It is part of the national consortium of 60 CTSA institutional hubs throughout the United States and is one of the largest federal research grants awarded in the state of Colorado. The CCTSI also receives considerable institutional support from CU Anschutz, CU Boulder, CSU and the affiliated hospitals. The CCTSI has more than 6,500 members who benefit from its services, funding sources and programs.

The **vision** of the CCTSI is to accelerate and catalyze the translation of innovative science into improved health and patient care. To reach this vision, the **mission** of the CCTSI is to:

- Catalyze and enhance scientific discovery, innovation, dissemination and translation across the lifespan;
- Educate and sustain a resilient, innovative and diverse translational science workforce;
- Promote and ensure an efficient, safe, collaborative and integrated research environment;
- Engage stakeholders and communities across the entire translational spectrum.

The CCTSI is led by **Ronald J. Sokol, MD**, and a team of talented associate directors and administrative staff. For further information on our programs, services and funding opportunities, go to CCTSI.cuanschutz.edu.

D&I Graduate Certificate Program

The Dissemination and Implementation (D&I) Science Graduate Certificate at the University of Colorado was designed to address a local and national need for rigorous training in D&I Science in health services research.

D&I science is the study of methods and strategies to facilitate the spread, adoption, implementation, and sustainment of evidence-based practices, interventions and policies in real world and diverse health settings. As a transdisciplinary scientific field, D&I science can address multiple cross-cutting research topics (e.g., increasing equity in access to and quality of care; use of innovative technologies and data science to improve routine care) and health conditions (e.g., mental health, cancer and cardiovascular disease morbidity and mortality, geriatric care) of high priority. D&I science also has the potential to make precision health more actionable and relevant and can make the translation of discoveries in this and other high priority areas more rapid.

The D&I Science Graduate Certificate Program is designed to provide pragmatic training to researchers who want to develop competencies in D&I science and practice which can be applied across multiple topic areas and settings in health services, clinical and community health, and public health research. The program is intended to provide researchers with solid foundational skills in D&I science, as well as intermediate and advanced skills in select D&I competency areas.

The D&I Science Graduate Certificate Program has two sponsoring units: the Adult and Child Center for Outcomes Research and Delivery Science (ACCORDS) acts as the primary sponsor and the Clinical Sciences Graduate Program at the University of Colorado Anschutz Medical Campus acts as the secondary sponsor. It is coordinated through the ACCORDS Dissemination and Implementation Science Program.

For questions about the D&I Certificate program please contact Christina Studts, PhD, MSPH, LCSW, the program director.