Implementation Science

The Tennessee State University Center for Prevention Research (CPR) faculty include and collaborate with scholars in the field of implementation science and implementation research. One of the goals of the CPR is to support knowledge and skill development in this field among interested TSU faculty and students.

Implementation science is often defined using words proposed by Eccles et al. (2006), i.e., “the scientific study of methods to promote systematic uptake of research findings and other evidence-based practices into routine practice, and hence, to improve the quality and effectiveness of health services and care.”

Implementation science aims to address the 17-year gap between development of research evidence for effectiveness of programs and interventions, and benefits in community settings patients and community members. Increasingly, implementation scientists are concerned about disparities in access to effective interventions, including prevention and screening programs, as well as treatments that can improve outcomes from disease and illness.

**Figure 1. The problem addressed by implementation science**

![Our Leaky Pipeline](https://www.implementnutrition.org/)

"The purpose of translational science is to positively impact population health, with the goal of effective research products (programs, practices, and interventions) being widely implemented in real-world clinical and public health settings. This process inevitably requires users of research to identify, adopt, and normalize new policies and practices within complex, real-world contexts. Implementation science describes this process, identifies the multi-level factors influencing it, and informs efforts to make it happen more readily, more equitably, and on a broader scale. Because of this, implementation science offers a compelling value proposition to translational science, namely, as a tool for accelerating translation and achieving health impact."

"The term “dissemination and implementation research” is often used to refer to the field also known as implementation science. In the United Kingdom and other countries the term “knowledge translation” is more commonly used to identify this field. Translational research is another term that overlaps with implementation science. As noted by Leppin et al. (2021),

This graphic is from the Society for Implementation Science in Nutrition (SISN) [https://www.implementnutrition.org/](https://www.implementnutrition.org/), one of many discipline-specific implementation science resources."
Some authors in the field distinguish between implementation science (IS) and implementation research (IR) by describing IS as designed to contribute to the growing body of knowledge and theory about the study of implementation methods. IR is generally designed to facilitate adoption and delivery of a specific evidence-based intervention in a specific setting. This domain might also be referred to as applied implementation science.

WHY IS IMPLEMENTATION SCIENCE IMPORTANT?

Advances in health and quality of life among people around the world have been slow, despite decades of work and funding for research, and sincere effort on the parts of many policy-makers and people who deliver programs. The gap, or chasm, between progress in developing effective programs to improve health, and the level of benefit at the community level has been extremely dissatisfying. Implementation science has evolved over the past several decades as a field dedicated to improving population health and advancing health equity. Implementation science is also being applied to other fields such as education. The number of conferences, journals, and training opportunities devoted to implementation science has been expanding, and many free resources and training opportunities in the field of implementation science are available from universities, public agencies and professional organizations.

HOW DOES IMPLEMENTATION SCIENCE ADDRESS PUBLIC HEALTH AND HEALTH EQUITY CONCERNS?

The World Health Organization asserts that health equity is a fundamental right, and defines health equity as "the absence of unfair, avoidable or remediable differences among groups of people, whether those groups are defined socially, economically, demographically, or geographically or by other dimensions of inequality (e.g. sex, gender, ethnicity, disability, or sexual orientation)." The Centers for Disease Control and Prevention note that health inequities are reflected in differences in length...
of life; quality of life; rates of disease, disability, and death; severity of disease; and access to treatment.

Brownson et al.(2021) recommended that “Every project in implementation science should include an equity focus.” In their recent paper, Brownson and colleagues offer guidance in accomplishing this goal incorporating the following elements:

- link social determinants with health outcomes,
- build equity into all policies,
- use equity-relevant metrics, (4) study what is already happening,
- integrate equity into implementation models,
- design and tailor implementation strategies,
- connect to systems and sectors outside of health,
- engage organizations in internal and external equity efforts,
- build capacity for equity in implementation science, and
- focus on equity in dissemination efforts.

The Center for Prevention Research aims to promote application of implementation science to promote health equity through our research and collaboration with faculty, students, and community partners.

The graphic below summarizes key points made in this overview of implementation science.

**References and resources**

https://link-springer-com.proxy.library.vanderbilt.edu/chapter/10.1007/978-3-319-44010-1_18

https://jamanetwork-com.proxy.library.vanderbilt.edu/journals/jamainternalmedicine/article-abstract/1729683


**Free training:**
https://cancercontrol.cancer.gov/is/training-education/training-in-cancer/TIDIRC-open-access
This site provides links to eight modules that make up the Training Institute for Implementation and Dissemination Research in Cancer (TIDIRC) Open Access course.