**Advancing Health Behavior Research Through Implementation Science:**
American Academy of Health Behavior Presidential Note
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The underlying goal of health behavior research is to create sustainable improvements in health and healthy equity within populations through examination of practices, programs, and policies in clinical and community settings. However, innovative, evidence-based solutions are not being implemented at scale to reduce the national burden of disease. Over the past twenty-years preventable causes of death have continued unabated, including more than 13 million deaths from diet and activity related diseases (McGinnis, 2013), 9 million deaths from cigarette smoking (Le et al., 2024), and 1.25 million drug overdose deaths (CDC, 2023). Each untimely loss of life has the potential to impact friends, family, and community. For example, an estimated 321,566 children lost a parent to overdose, with a rate that nearly doubled from 2011 (27.0 per 100,000) to 2021 (63.1 per 100,000) (Jones et al., 2024). American Indian and Alaskan Native children lost parents at a rate more than twice (187.1 per 100,000) that of non-Hispanic White (76.5 per 100,000) and non-Hispanic Black children (73.2 per 100,000) (Jones et al., 2024). Tragically, persistent preventable deaths are associated with significant disparities by race, ethnicity, gender, sexual identity, and geography for many health behaviors and health outcomes in the United States. Our work has the capacity influence, address, and counteract social determinants of health that underly these disparities.
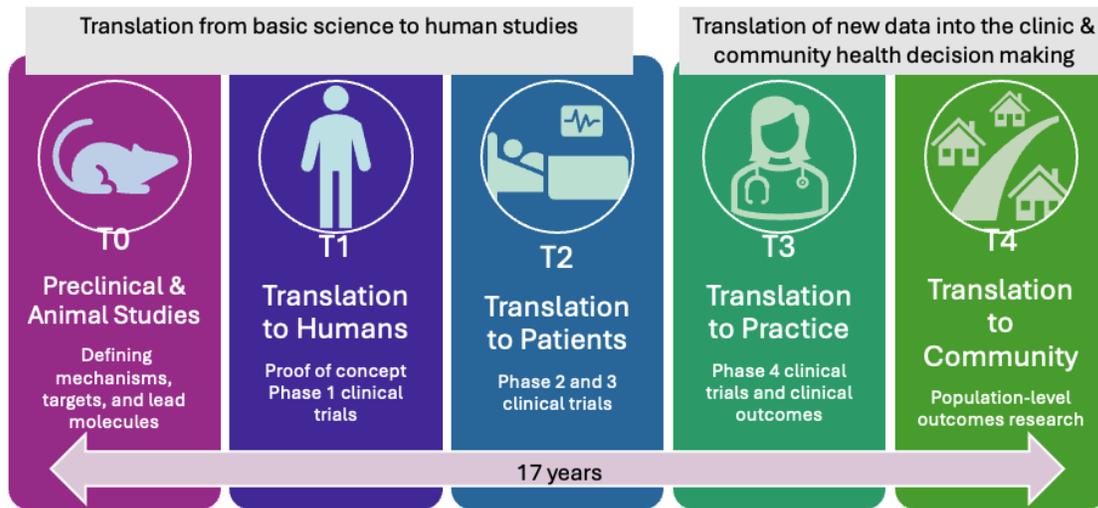
Figure 1: Translational Science Model

Among the most pressing priorities for health behavior researchers today is the lag in the translation of evidenced-based solutions into practice. In translational scientific models, the goal is to convert research findings from one phase to the next phase. The phases are traditionally conceptualized as basic preclinical and animal models (T0), proof of concept and phase I clinical trials in humans (T1), phase 2 and 3 clinical trials with patients (T2), phase 4 clinical trials and clinical outcomes research (T3), and population-level outcomes research (T4; see Figure 1). Health behavior research spans between T1 and T4 and involves changing context (and barriers) for the intervention, program, practice, or policy: this is a space where implementation science designs can address the underlying goals of translation through hybrid implementation-effectiveness designs. Notably, it is the responsibility of scientists to understand evidence across the translational space, to generate hypotheses based on these findings, and to test them in the same or a new phase. Indeed, sometimes this translation is back-translation from population-level or clinical-practices that do not have a basis in the extant literature. At best, the translation of research includes implementation and dissemination designs that may inform elimination of persistent premature deaths and disparities.

The translation of our science is not operating under ideal circumstances. The goal to inform solutions for individuals, families, and communities is unmet is because is our evidence is not accessible to or implemented within our collaborative and partnering communities. Our systems, including publication and funding models, create significant delays in ensuring evidence can be translated across phases, and therefore, implemented in communities to have lasting impact. In the United States, health research on average 17 years from bench to bedside or community (Morris et al., 2011). During the early months and years of the COVID pandemic, we collectively experienced the speed with which translation, implementation, and dissemination can happen when there is a collective urgency, financial and human resources, and administrative coordination (Llewellyn et al., 2024).

Urgency is needed and appropriate to counteract the apathy that has resulted from decades of unabated premature death. As a community of academic health behavior researchers, we, the membership of the Academy of Health Behavior are attempting to address premature and preventable loss of life (McGinnis, 2013; Mokdad et al., 2004) through research which spans three distinct categories of human subjects research in translational science: observation (T1), intervention trials (T2-3), and implementation into community (T4). Our organization will

continue to disseminate health behavior evidence through professional development workshops, the mentoring program, the annual conference, and through Health Behavior Research, a dedicated open-source journal accessible to both community and academic audiences. During the next year, specifically, these activities will highlight implementation science methods, cutting-edge digital and technological approaches, and other best practices in implementation science for health behavior researchers.

We cannot shift the disproportionate burden of disease without the science and action of the members of AAHB. Over the next year, as we focus on implementation science and outcome research, I challenge you to implement new research designs into your work; to read articles from outside of your traditional space; to actively translate science for the benefit of all. In a quote oft attributed to Hillel the Elder, "If not me, who? If not now, when?" It is time to apply new research methods and form new relationships that help address our underlying goal of alleviating human disease and suffering. The field and the population need applications of your research excellence. Your engagement and participation in AAHB and on the topic of implementation science are welcome.

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