POLICY BRIEF

A model for transdisciplinary team-based research: implications for policy and research

Translational Behavioral Medicine

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POLICY IMPLICATIONS

1. TD team-based research can be effective in developing policy solutions for complex social and health problems.
2. The strategies and phases of the TD team-based model are applicable for policy solutions and can help guide in building the policy's evidence base.
3. When developing policy solutions, translational partners who may not be in the core TD team such as community members, public health practitioners, and other professionals involved in the policy process can provide the benefit of real-world perspective.

RESEARCH IMPLICATIONS

1. More research is needed on the application of evidence-based principles to the administration, management, and conduct of TD team-based research.
2. Testing this four-phase model (e.g., through case studies) will contribute to the empirical evidence of TD research.
3. In order to develop best practices, there is a need to examine how variations in key characteristics of TD research initiatives may influence the TD research process.

Background

Social and public health problems are complex and require a multidiscipline approach to developing solutions. Perspectives from scholars and practitioners representing diverse disciplines can help in problem solving by contributing unique knowledge, methodological approaches, conceptual frameworks, and theories. Transdisciplinary (TD) research establishes a shared understanding of individual and group contributions through social process in the interest of scientific innovation and generation of new knowledge. "The science of team science" identifies models and recommendations for the most effective TD.

Strategies for success across the four-phase model of TD team-based research

The primary goal of the *development phase* is to use relevant expertise from each group member to define the scientific or societal problem space of interest along with boundaries and interconnections of concepts. At the beginning of this phase, group members work toward collaborative integration and group cohesion. The team processes in this phase help generate shared mission and goals with critical awareness of the strengths and limitations of integrating multiple fields and disciplines. Aspects of collective problem solving in this phase require a level of comfort in expressing independent thoughts and opinions.

In the *conceptualization phase*, team members develop research questions, hypotheses, a conceptual framework, and a research design that integrates the multiple disciplines represented. Team members begin to learn each other's disciplinary vocabulary and develop a shared language. In this phase, team members maximize efficiency by knowing the expertise and strengths of each collaborator and are willing to learn about and use approaches from other disciplines.

The primary goals of the *implementation phase* are to launch, conduct, and refine the planned TD research. Here, collaborators are functioning interdependently. Developing a shared understanding of who does what, how things get done, and how interactions occur is important to successful team performance. Conflict management in this phase is critical. Reflection on the research questions, methods and future directions of the team helps to guide the often iterative approach to problem solving.

In the *translation phase*, research findings are applied and may ultimately provide innovative solutions to real-world problems. Translational activities may include a range of application from basic science to implementation science, and these activities are often planned in previous TD model phases. Team members develop shared goals for the translational endeavor and shared understanding on how the goals will be pursued. Partners outside the TD team such as community members may also be included in translational opportunities.

BOTTOM LINE:

TD teams are a way to facilitate the development solutions to complex social and public health problems through collaboration and collective contributions of multiple and diverse disciplines. This model provides an understanding of phases of TD team-based research and strategies related to successful outcomes.