

Orientation to Dissemination and Implementation Research in Health Resource Guide

Dissemination and Implementation (D&I) Research intends to bridge the gap between clinical research, everyday practice, and public health by building a knowledge base about how health information, interventions, and new clinical practices, guidelines and policies are transmitted and translated for public health and health care service use in specific settings. (PAR-18-007) This discipline is characterized by a variety of research designs and methodological approaches, partnerships with key stakeholder groups (e.g., patients, providers, organizations, systems, and/or communities), and developing and testing ways to effectively and efficiently integrate evidence-based practices, interventions, and policies into routine health settings.

To complement this session, we have compiled this resource guide that includes a glossary and links to helpful web-based resources organized by general or specific content areas.

General Online Resources

The D&I Orientation Committee has posted a list of general website resources on the Academy Health site: https://www.academyhealth.org/sites/default/files/orientation_to_di_science.pdf

Glossary

adaptation	The degree to which an evidence-based intervention is changed or modified by a user during adoption and implementation to suit the needs of the setting or to improve the fit to local conditions.
adoption	A decision to make full use of an innovation, intervention, or program as the best course of action available. Also defined as the decision of an organization or community to commit to and initiate an evidence-based intervention.
community engagement	Process of inclusive participation that supports mutual respect of values, strategies, and actions for authentic partnership of people affiliated with or self-identified by geographic proximity, special interest, or similar situations to address issues affecting the well-being of the community of focus.
community-based participatory research (CBPR)	A collaborative approach to research that equitably involves all partners in the research process and recognizes the unique strengths that each brings. CBPR begins with a research topic of importance to the community and has the aim of combining knowledge with action and achieving social change to improve health outcomes and eliminate health disparities. See additional definitions.
cost-effectiveness analysis	Systematic and quantitative comparisons of trade-offs between health outcomes and costs of alternative health care interventions with standards set for the United States.
de-implementation	Reducing or stopping the use of a health service or practice provided to patients by health care practitioners and systems.
diffusion of innovations	A process in which an innovation is communicated through certain channels over time among the members of a social system.
dissemination science, dissemination research	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.
evidence-based interventions	Health-focused intervention, practice, program, or guideline with evidence demonstrating the ability of the intervention to change a health-related behavior or medicine. See variations of this definition from other sources.
evidence-based medicine	The conscientious, explicit, and judicious use of current best evidence in making decisions about the care of the individual patient.

evidence-based public health	Defined by several key characteristics that include making decisions based on evidence-based interventions, using data and information systems systematically, applying program planning frameworks, engaging the community in assessment and decision-making, conducting sound evaluation, and disseminating what is learned to key stakeholders and decision-makers.
evidence-informed decision-making	Process of distilling and disseminating the best available evidence from research, context, and experience (political and organizational) and using that evidence to inform and improve public health practice and policy.
fidelity (of evidence-based interventions)	Degree to which an intervention or program is implemented as intended by the developers and as prescribed in the original protocol.
formative evaluation	Evaluative activities undertaken during the design and pretesting of programs to guide the design process. See additional resources.
implementation outcomes	Effects of deliberate and purposive actions to implement new treatments, practices, and services. First, implementation outcomes serve as indicators of the implementation success. Second, they are proximal indicators of implementation processes. Third, they are key intermediate outcomes in relation to service system or clinical outcomes in treatment effectiveness and quality of care research. Implementation outcomes include acceptability, adoption, appropriateness, costs, feasibility, fidelity, penetration, and sustainability.
implementation science, research	Scientific study of the use of strategies to adopt and integrate evidence-based health interventions into clinical and community settings to improve patient outcomes and benefit population health.
implementation strategies	Methods or techniques used to enhance the adoption, implementation, and sustainability of a clinical program or practice.
intervention mapping	Framework for effective decision-making at each step in the intervention development process and provides a system for the integration of theory, empirical findings from the literature, and information collected from the target population. The intervention mapping process includes 5 fundamental steps: (1) creating matrices of proximal program objectives from performance objectives and determinants of behavior and environmental conditions, (2) selecting theory-based intervention methods and practical strategies, (3) designing and organizing programs, (4) specifying adoption and implementation plans, and (5) generating an evaluation plan.
knowledge translation	Dynamic and iterative process that includes synthesis, dissemination, exchange, and ethically sound application of knowledge to improve health, provide more effective health services and products, and strengthen the health care system.
mixed methods research	Research in which the investigator collects and analyzes data, integrates the findings, and draws inferences using both qualitative and quantitative approaches or methods in a single study or program of inquiry.
pragmatic trials	Trials primarily designed to determine the effects of an intervention under the usual conditions in which it will be applied. Contrasts with explanatory trials, which are primarily designed to determine the effects of an intervention under ideal circumstances.
quality improvement	Efforts by health care professionals, patients and their families, researchers, payers, planners, and educators to make the changes that will lead to better patient outcomes (health), better system performance (care), and better professional development (learning). Also defined as systematic and continuous actions that lead to measurable improvement in health care services and health status of patients.
quasi-experimental design	An experimental study design in which units are not assigned to conditions randomly. Examples of quasi-experimental designs include interrupted time series, regression discontinuity, and non-equivalent control group design.

randomized experimental design	An experimental study in which units are assigned to receive the treatment or an alternative condition by a random process. Examples of randomized experimental designs include the randomized controlled trial (RCT), cluster randomized controlled trial (cRCT), and pragmatic randomized controlled trial (pRCT).
scale-up or scaling up	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 bases. See variations of this definition from other sources.
stepped wedge design	Study design in which an intervention is rolled out sequentially to trial participants (e.g., individuals, groups, organizations, clinics, and communities) or clusters of trial participants over different time periods. Participants or clusters of participants receive the intervention at a randomly assigned time point such that all participants receive the intervention by the end of the trial.
sustainability	The continued use of program components and activities for the continued achievement of desirable program and population outcomes. See additional definitions.

Key Papers and Books

- Brownson, R. C. (2017). *Dissemination and implementation research in health: translating science to practice*. Oxford University Press.
- Damschroder, LJ, Aron, DC, Keith, RE, Kirsh, SR, Alexander, JA, & Lowery, JC (2009). *Fostering implementation of health services research findings into practice: a consolidated framework for advancing implementation science*. Implementation Science 7;4:50 (PMID:19664226)
- Francis, J. J., O'Connor, D., & Curran, J. (2012). *Theories of behaviour change synthesised into a set of theoretical groupings: introducing a thematic series on the theoretical domains framework*. Implementation Science, 7(1), 35.
- Lyon, AR, Stirman, SW, Kerns, SEU, & Bruns, EJ (2011). *Developing the Mental Health Workforce: Review and Application of Training Approaches from Multiple Disciplines*. Administration and Policy in Mental Health and Mental Health Services Research, 38, 238–253 (PMID:21190075)
- Powell, B. J., Waltz, T. J., Chinman, M. J., Damschroder, L. J., Smith, J. L., Matthieu, M. M., ... & Kirchner, J. E. (2015). *A refined compilation of implementation strategies: results from the Expert Recommendations for Implementing Change (ERIC) project*. Implementation Science, 10(1), 21.
- Proctor, E., Silmere, H., Raghavan, R., Howmand, P., Aarons, G., Bunger, A., et al. (2010). *Outcomes for implementation research: Conceptual distinctions, measurement challenges, and research agenda*. Administration and Policy in Mental Health and Mental Health Services Research, 38, 65-76. (PMCID:PMC3068522)
- Stirman, S. W., Kimberly, J., Cook, N., Calloway, A., Castro, F., & Charns, M. (2012). *The sustainability of new programs and innovations: A review of the empirical literature and recommendations for future research*. Implementation Science, 7, 17. (PMID:22417162)
- Tabak RG, Khoong EC, Chambers DA, Brownson RC (2012). *Bridging research and practice: Models for dissemination and implementation research*. American Journal of Prevention Medicine, 43(3):337-350. (PMID:22898128)

Resources that Compile Evidence

- Campbell (<https://www.campbellcollaboration.org>)
- Cochrane EPOC (epoc.cochrane.org)
- Health Systems Evidence (healthsystemsevidence.org)

Methods for Selecting and Tailoring Implementation Strategies

- Colquhoun, H. L., Squires, J. E., Kolehmainen, N., Fraser, C., & Grimshaw, J. M. (2017). Methods for designing interventions to change healthcare professionals' behaviour: a systematic review. *Implementation Science*, 12(1), 30.
- Powell, B. J., Beidas, R. S., Lewis, C. C., Aarons, G. A., McMillen, J. C., Proctor, E. K., & Mandell, D. S. (2017). Methods to improve the selection and tailoring of implementation strategies. *The journal of behavioral health services & research*, 44(2), 177-194.

Overview of Measures Resources and Mixed Methods

- Palinkas, L. A., Aarons, G. A., Horwitz, S., Chamberlain, P., Hurlburt, M., & Landsverk, J. (2011). Mixed method designs in implementation research. *Administration and Policy in Mental Health and Mental Health Services Research*, 38(1), 44-53.
- Rabin, B. A., Lewis, C. C., Norton, W. E., Neta, G., Chambers, D., Tobin, J. N., ... & Glasgow, R. E. (2015). Measurement resources for dissemination and implementation research in health. *Implementation science*, 11(1), 42.

Design Resources

- Brown, C. H., Curran, G., Palinkas, L. A., Aarons, G. A., Wells, K. B., Jones, L., ... & Tabak, R. G. (2017). An overview of research and evaluation designs for dissemination and implementation. *Annual review of public health*, 38, 1-22.
- Curran, GM, Bauer, M, Mittman, B, Pyne, JM, & Stetler, C. Effectiveness-implementation Hybrid Designs: Combining elements of clinical effectiveness and implementation research to enhance public health impact. *Medical Care*, 50(3): 217-226 (PMID:22310560)

Overview of DIRH PAR's

- Archived overview by David Chambers: <https://www.youtube.com/watch?v=ZMZpjn6XW0M>

Grant Writing Guidance Specific to D&I

- Brownson, R. C., Colditz, G. A., Dobbins, M., Emmons, K. M., Kerner, J. F., Padek, M., ... & Stange, K. C. (2015). Concocting that magic elixir: successful grant application writing in dissemination and implementation research. *Clinical and translational science*, 8(6), 710-716.
- Proctor, E. K., Powell, B. J., Baumann, A. A., Hamilton, A. M., & Santens, R. L. (2012). Writing implementation research grant proposals: ten key ingredients. *Implementation Science*, 7(1), 96.

Excellent Books on Implementation Science

- Beidas, R. S., & Kendall, P. C. (Eds.). (2014). *Dissemination and implementation of evidence-based practices in child and adolescent mental health*. Oxford University Press.
- Brownson, R. C. (2017). *Dissemination and implementation research in health: translating science to practice*. Oxford University Press.
- Grol, R., Wensing, M., Eccles, M., & Davis, D. (Eds.). (2013). *Improving patient care: the implementation of change in health care*. John Wiley & Sons.
- McHugh, R. K., & Barlow, D. H. (Eds.). (2012). *Dissemination and implementation of evidence-based psychological interventions*. Oxford University Press.
- Straus, S., Tetroe, J., & Graham, I. D. (Eds.). (2013). *Knowledge translation in health care: moving from evidence to practice*. John Wiley & Sons.