QUERI CEIR Implementation Science, Knowledge Translation, and Quality Improvement Resource Matrix

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Background and intended use

There has been increased awareness of the importance of training in applied implementation science. Also referred to as knowledge translation, implementation science involves the use of strategies and methods that support providers to improve quality of health care by promoting the uptake of effective practices in routine settings. Implementation science is also a core component of the development of a Learning Healthcare System within large healthcare settings such as the Veterans Health Administration by providing a bridge between knowledge, clinical practice, and data. This awareness has led to an eagerness to seek out materials and trainings that can provide education related to current best practices in implementation science. However, the broad and extensive amount content developed related to implementation science and quality improvement can create challenges for persons interested in seeking out learning opportunities related to these areas.

The QUERI Center for Evaluation and Implementation Resources (CEIR) Implementation Resource Training Matrix was designed to assist those interested in learning more about implementation science and quality improvement by organizing available resources. Included resources are organized by two matrices, based on users’ level of preferred implementation science skill development (basic conceptual, applied practitioner, expert) as well as their preference for self-education versus guided learning opportunities. The Matrix can be used to guide interested users to be resources that best match their training needs and allow them to begin to explore available resources in an independent manner rather than depending on others for guidance for how to develop their implementation science skills.

The Implementation Resource Training Matrix is not intended to be an exhaustive overview of all available resources and is a living document that will be updated as new resources are developed. Instead, it is intended to guide users to resources which will start their process of education related to implementation science with the expectation that this process will also expose them to other resources which are not included in the Matrix. Users are encouraged to explore resources across different levels and modalities to find the right combination of resources that best fit their training interests.

If you have questions about the use of this Matrix or of which resources would be the best fit to your interests and current skill levels, please feel free to contact Veronica Williams (Veronica.Williams6@va.gov) or Nick Bowersox (Nicholas.Bowersox@va.gov) at CEIR for a consultation about how to get started.
# The CEIR Implementation Training Resource Matrix

<table>
<thead>
<tr>
<th>Level of desired implementation science knowledge</th>
<th>Self-Directed Resources</th>
<th>Guided Resources</th>
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<tr>
<td><strong>BASIC CONCEPTUAL</strong></td>
<td>Online Tools</td>
<td>VA Mentored Opportunities</td>
</tr>
<tr>
<td>Learn the fundamentals of implementation science and practice to aid in quality improvement efforts, including learning about the role of implementation strategies</td>
<td>Online Videos</td>
<td>Non-VA Mentored Opportunities</td>
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<tr>
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<td>Printed Resources</td>
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<tr>
<td><strong>APPLIED PRACTITIONER</strong></td>
<td>Recurring Educational Sessions</td>
<td>VA Mentored Opportunities</td>
</tr>
<tr>
<td>Conduct applied implementation or quality improvement projects, including selecting and using implementation strategies</td>
<td>Online Resources</td>
<td>VA Training/Workshops</td>
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<tr>
<td></td>
<td>Online Videos</td>
<td>Non-VA Mentored Opportunities</td>
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<tr>
<td></td>
<td>Printed Resources</td>
<td>Non-VA Training/Workshops</td>
</tr>
<tr>
<td><strong>EXPERT</strong></td>
<td>Recurring Educational Sessions</td>
<td>VA Mentored Opportunities</td>
</tr>
<tr>
<td>Effectively select, apply and test dissemination and implementation theory and methods to implementation research and partnered evaluation initiatives, including creating or designing implementation strategies</td>
<td>Monthly Newsletters/Listservs</td>
<td>VA Training/Workshops</td>
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<td></td>
<td>Online Resources</td>
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BASIC CONCEPTUAL SELF-DIRECTED RESOURCES

Online Tools

- **Dissemination and Implementation at Washington University in St. Louis** The one-stop shop for dissemination and implementation activities at Washington University in St. Louis. This site provides current information about training and consultation in dissemination and implementation at WU and links to the many centers and projects engaged in dissemination and implementation research and consultation.

- **NCI Implementation Science at a Glance: A Guide for Cancer Control Practitioners** An introductory guide to implementation science that provides a succinct overview of the rapidly evolving field of dissemination and implementation science. This 30-page resource is available in three electronic formats. Through summaries of key theories, methods, and models, the guide shows how greater use of implementation science can support the adoption of effective practices. Case studies illustrate how practitioners are successfully applying implementation science in their cancer control programs.

- **VA QUERI Roadmap for Implementation and Quality Improvement: A Resource Guide.**

Online Videos

- **Dissemination and Implementation Science: What is it and Why is it Critical to Translational Science?** Hosted by the Clinical Directors Network. Doctors Enola Proctor, Stephen Bartels, and Laura Mae Baldwin provide an overview to help new practitioners to D&I science understand what dissemination, implementation, implementation science, and dissemination science are; understand the features of Dissemination and Implementation (D&I) research studies, and what makes D&I research studies different from usual clinical trials; and help new practitioners and researchers identify funding sources for D&I research.

- **Orientation to the Science of Dissemination and Implementation** This online seminar led by implementation scientists, Drs. Rinad Beidas, Cara Lewis, and Byron Powell, provides an introduction and orientation to the science of dissemination and implementation for those new to this field.

- **What is Implementation Science?** This University of Washington Implementation Science Resource Hub site provides an introductory overview of the field and objectives of implementation science through written and video content.

Printed Resources

- **An introduction to implementation science for the non-specialist**

- Special supplement in the journal of *Psychiatry Research*

BASIC CONCEPTUAL GUIDED RESOURCES

- **VA Center for Evaluation and Implementation Resources**

- **VA QUERI Learning Hubs**
• Trainings by the VA QUERI Programs
• Harvard EdX Practical Improvement Science in Healthcare: A Roadmap for Getting Results
APPLIED PRACTITIONER SELF-DIRECTED RESOURCES

Recurring Educational Sessions

- Knowledge Translation Webinar Series – Michael Smith Foundation for Health Research and Arthritis Research Canada. KT Connects is a series of monthly beginner-level knowledge translation (KT) webinars hosted by MSHFR and Arthritis Research Canada. Hear KT scientists, stakeholders, and practitioners discuss the basics of KT, how KT relates to patients and the public, and KT in health policy-making and clinical practice. All webinars are recorded and archived below, along with supplemental resources for continued learning.

- VA Implementation Research Group (IRG) Programming The Implementation Research Group (IRG) is an international learning collaborative that showcases state-of-the-art implementation science topics to an audience of over 525 members from across the nation (VA and non-VA) and outside of the US. The IRG’s activities include educational cyber seminars, community of practice calls, and six specialty working group calls related to different implementation approaches and methods.

Online Resources

- Active Implementation Hub hosted by the University of North Carolina’s National Implementation Research Network Center and the Frank Porter Graham Child Development Institute. The Active Implementation Hub is a free, online learning environment for use by any stakeholder—practitioners, educators, coaches, trainers, purveyors—involved in active implementation and scaling up of programs and innovations. The site goal is to increase the knowledge and improve the performance of persons engaged in actively implementing any program or practice.

- Dissemination & Implementation Models in Health Research and Practice An interactive database to help investigators and clinicians select, adapt, and integrate the dissemination and implementation model that best fits their research question or practice problem.

- TDR Implementation Research Toolkit hosted by TDR, the Special Program for Research and Training in Tropical Diseases. This toolkit is designed to help one conduct an implementation research (IR) project through a standard process so that you have high-quality results that are reliable. Before starting, site users are encouraged to read the “How to use this Toolkit” section and take the TDR Massive Open Online Course on IR for a foundational knowledge regarding implementation research.

- UW Seattle Implementation Science Resource Hub The Implementation Science Resource Hub is a resource of University of Washington Department of Global Health’s Implementation Science Program to help further ongoing implementation research and education, providing introduction to the field of implementation science for students and new implementation researchers, and curating selections of supporting resources for further study.


- VHA Access to Care Initiative Hub The VHA Access to Care Initiative strives to design, test, and deploy enterprise strategies aligned with the four essential themes in the VHA
Blueprint for Excellence: Improve Performance, Promote a Positive Culture of Service, Advance Health Care Innovation for Veterans and the Country, and Increase Operational Effectiveness and Accountability.

- **Veterans Health Administration Innovation Ecosystem**: The Veteran Health Administration’s Innovation Ecosystem is the catalyst for enabling the discovery and spread of mission-driven health care innovation to advance care delivery and service that exceeds expectations, restores hope, and builds trust within the Veteran community. As part of the VHA Office of Discovery, Education, and Affiliate Networks, the VHA Innovation Ecosystem leverages the collective power of innovation champions from across Department of Veterans Affairs, academia, and industry, fueled by four complementary portfolios: Innovation Ecosystem, Diffusion of Excellence, VHA Innovation Community, and Care and Transformation Initiatives.

**Online Videos**

- **Make Research Matter – Narrative Library** freely accessible online library containing video vignettes and transcripts with junior and senior D&I experts of "how-to" knowledge to D&I problems.
- **TDR Massive Open Online Course (MOOC) on Implementation Research** hosted by TDR, the Special Program for Research and Training in Tropical Diseases. With the help of invited experts from regions around the globe, this is a step-by-step online training for public health researchers and decision-makers, disease control program managers, academics and others that focuses on how to design and demonstrate robust IR projects on infectious diseases of poverty.

**Printed Resources**

- National Cancer Institute’s **Implementation Science at a Glance** An introductory guide to implementation science that provides a succinct overview of the rapidly evolving field of dissemination and implementation science. This 30-page resource is available in three electronic formats. Through summaries of key theories, methods, and models, the guide shows how greater use of implementation science can support the adoption of effective practices. Case studies illustrate how practitioners are successfully applying implementation science in their cancer control programs

**APPLIED PRACTITIONER GUIDED RESOURCES**

**Mentored Opportunities**

- **VA QUERI Implementation Learning Hubs** The goal of the QUERI Implementation Strategy Training Hubs is to demystify implementation science by offering opportunities for clinicians and researchers to learn how to deploy effective practices using specific implementation strategies (i.e., tools or methods that help existing providers adopt effective practices). There are currently seven QUERI Training Hubs that specialize in providing training and consultation on the application of specific evidence-based implementation strategies which are described on the site.
- **VA QUERI Program** regional/local mentoring
• **VA Diffusion of Excellence Base Camp** Following the annual VHA Shark Tank Competition, the top 10-15 promising practices (GSP) begin the journey toward replication at new Implementing Facilities through the Diffusion of Excellence. At Base Camp, both the promising practice developers—known as Practice Fellows—and their counterparts from other VA Medical Centers (VAMC)—known as Implementing Facility Fellows—come together to customize the GSP for implementation at the new facilities. The knowledge and relationships built during this event serve as the foundation to support the implementation process throughout the year. At Base Camp, participants collaborate with subject matter experts to develop an implementation plan, an individualized roadmap designed to guide the replication of the practice in the new facility.

• **VA Diffusion Academy** VHA Diffusion Academy takes mature innovations that are ready to take the next step from across VHA Innovation Ecosystem’s (IE) portfolios and helps their creators build the groundwork for sustaining and scaling their practices. Developed specifically for mature practices that have spread to other facilities, VHA Diffusion Academy focuses on promoting team development and cohesion, replication strategies, national stakeholder engagement, strategic communications, and resourcing for practice growth and sustainment. By providing training, education, and networking during this event, practice champions will have the resources and connections to spread their work nationwide. Moving an innovation from a few facilities to a systemwide standard is a challenge that requires not only different skills, but continued support and connectivity. By addressing knowledge and project management gaps, VHA Diffusion Academy allows innovators, caregivers, and VA employees to continue to diffuse, mature, and/or progress their work independently.

• **University of California San Francisco Online Courses & Certificate in Implementation Science**

• **University of North Carolina at Chapel Hill Implementation Science Institute presented by the Franklin Porter Graham Child Development Institute and the National Implementation Research Network (NIRN)**

• **RE-AIM Online Module Web-based Training** The RE-AIM Online Training is a web-based module that provides instruction and case examples to illustrate the five dimensions of the RE-AIM framework: Reach, Effectiveness or efficacy, Adoption, Implementation, and Maintenance. The RE-AIM framework is useful for planning new interventions, adapting existing interventions, and designing evaluations that assess the potential public health impact of interventions. This free online training module was developed to help with supporting researchers and evaluators that might be new to RE-AIM or want to learn a bit more of the framework’s applications and use.

**EXPERT SELF-DIRECTED RESOURCES**

**Recurring Educational Sessions**

• **VA Implementation Research Group (IRG) Programming** The Implementation Research Group (IRG) is an international learning collaborative that showcases state-of-the-art implementation science topics to an audience of over 525 members from across the nation (VA and non-VA) and outside of the US. The IRG’s activities include educational
cyber seminars, community of practice calls, and six specialty working group calls related to different implementation approaches and methods.

- **VA Health Services Research & Development (HSR&D) and QUERI Cyber Seminars**
  State-of-the-art training and special interest sessions via live web conferences and 24/7 on-demand archived presentations.

- **National Cancer Institute Implementation Science Webinars**
  Leaders in the field of implementation science discuss advanced dissemination and implementation research topics and answer questions from the community via live sessions and 24/7 on-demand archived recordings.

- **National Cancer Institute (NCI) Research to Reality Webinars**
  Virtual sessions that bring together cancer control practitioners and researchers to discuss moving evidence-based programs into practice via live sessions and 24/7 on-demand archived presentations.

- **Implementation Science Journal Club**
  This journal club is hosted by the VA Center for Delivery and Outcomes Research that provides an opportunity to keep up with the implementation science literature and discuss this evolving field with experienced implementation scientists. The Implementation Science Journal Club meets the 4th Tuesday of each month at 2:00 pm CST.

* Individual webinars and cyber seminars require pre-registration on the above websites. See newsletters and listserv below on how to keep apprised of upcoming presentations.

### Monthly Newsletters and Listservs

Click on these links to subscribe to monthly newsletters and listservs from organizations inside and outside the VA to keep abreast of training opportunities, developments in the field of implementation science, jobs, and new tools for investigators and practitioners.

- **European Implementation Collaborative.** Information on current work in international projects focusing on implementation science, which includes a regular newsletter.

- **UK Implementation Society.** Professional society which includes web-based resources to learn about current work in the field of implementation science.

- **Implementation Science News, Consortium for Implementation Science (UNC).** The latest research, news & opportunities from the field brought to you by the Consortium for Implementation Science, a joint endeavor of UNC Gillings School of Global Public Health and RTI International.

- **Knowledge Translation Canada**
  News on relevant scientific and practice innovations from a network of Canadian experts specializing in knowledge translation which aims to shorten the time gap between the completion of health research and applying the results at the patient’s bedside and in everyday health decisions.

- **NCI Implementation Science Updates**
  A source of current news related to improving the impact of cancer control and population science on the health and health care of the population, and fostering the rapid integration of research, practice, and policy.

- **University of Wisconsin-Madison Institute for Clinical & Translational Research D&I Launchpad newsletter**
  A monthly newsletter to stay up to date about events, opportunities, and helpful dissemination and implementation resources.

- **VA QUERI Implementation Research Group (IRG) newsletter;** contact [CEIR@va.gov](mailto:CEIR@va.gov)

### Online Resources
QUERI Roadmap guide VA QUERI Roadmap for Implementation and Quality Improvement: A Resource Guide. The Roadmap describes how implementation science and quality improvement concepts, methods, and evaluation strategies can be used to systematically improve health care outcomes and quality over time. This guide offers a comprehensive approach or “roadmap” to pragmatically apply implementation science methods to overcome barriers to integrating effective practices or promising innovations in routine care. The guide was designed to provide quick links to essential tools, concepts, resources, and references to rapidly innovate in their local setting using the principles of a learning health organization.

Conceptual Frameworks, Models and Theories

- Consolidated Framework for Implementation Research (CFIR) An interactive site created for individuals considering the use of this D&I determinants framework (multi-level barriers and facilitators to implementation) to evaluate an implementation or design an implementation study.
- Dissemination & Implementation Models in Health Research and Practice An interactive database to help investigators and clinicians select, adapt, and integrate the dissemination and implementation model that best fits their research question or practice problem.
- Exploratory, Preparation, Implementation, Sustainment (EPIS) framework: A website created to explain and support the EPIS Framework and provides resources for using EPIS including measures and tools (e.g., worksheets, guides). The EPIS Framework highlights key phases that guide and describe the implementation process and enumerates common and unique factors within and across levels of outer context (system) and inner (organizational) context across phases, factors that bridge outer and inner context, and the nature of the innovation or practice being implemented and the role of innovation/practice developer.
- National Cancer Institute recommended journal articles on theories, frameworks, and articles A website to help researchers better understand, plan for, and conduct rigorous dissemination and implementation studies that is organized by theories, frameworks, and models; strategies; and additional resources.
- RE-AIM.org Resources and tools for those wanting to apply the RE-AIM framework to support systematic planning, mid-course adjustments, evaluation, and reporting. Includes planning tools, calculation tools, measures, checklists, visual displays, figures, an online RE-AIM module, and more.

General Resources on Implementation Science and Program Planning and Evaluation

- Wake Forest College of Medicine CTSA Program The CTSA Program’s vision is to “be a catalyst for Wake Forest Baptist Health’s transition to a preeminent Academic LHS. (The) LHS focuses on the health of our community, maintains a strong pipeline of research findings and investigators across translational disciplines, and aligns science, informatics, incentives, and culture to continuously improve and innovate. (The LHS) embeds best practices seamlessly into the delivery process and capture new knowledge as a by-product of every interaction”
- Vanderbilt University CTSA Program: Vanderbilt Institute for Clinical and Translational Research LHS program “Bringing clinical research and clinical operations together as collaborative partners to promote, develop, and support ventures aligned with the mission of LHS; ensure technical, procedural, and human infrastructure is in place for LHS evolution;
and expedite efficient pursuit of activities for the purpose of improving the quality of patient care."

- **D&I Toolkits** provided by the Dissemination and Implementation Research Core at Washington University in St. Louis. These toolkits have been developed by the Dissemination and Implementation Research Core (DIRC), a methods core aimed to support investigators interested in D&I and address topics such as aims, designs, determinants, implementation outcomes, organization measures, implementation strategies, and writing a grant proposal.

- **The Community Toolbox** A free, online resource supported by the University of Kansas for those working to build healthier communities and bring about social change by offering access to over 300 educational modules and tools on the topics of community assessment, planning, intervention, evaluation, advocacy, and other aspects of community practice.

- **UNC Implementation Science Exchange** a free, online source for those interested in resources to help design, acquire funding for, execute and disseminate Implementation Science research projects. The Exchange will find or create resources, tools, websites, guides, toolkits and sample grant applications to help support researchers in the field of Implementation Science, particularly those new to research or new to the field itself.

- **UW Seattle Implementation Science Resource Hub** The Hub is a resource of the University of Washington’s Department of Health’s Implementation Science Program to help further ongoing implementation research and education, providing introduction to the field of implementation science for students and new researchers, and curating selections of supporting resources for further study.

### Implementation Strategies

- **QUERI Implementation Training Hubs**

- **Agency for Health Research & Quality (AHRQ) Practice Facilitation Handbook** A comprehensive, 21 module handbook designed to support the training of new practice facilitators to acquire relevant knowledge and skills to support meaningful improvement in primary care practices, particularly related to the implementation of the chronic care or consumer-centered medical home models.

- **National Cancer Institute (NCI) recommended peer-reviewed articles on implementation strategies**

- **VA QUERI Implementation Facilitation Training Manual Version 2.0** This manual provides information and resources to individuals who want to understand the process of implementation facilitation, a multifaceted process of enabling and supporting individuals, groups, and organizations in their efforts to adopt and incorporate effective practices into routine practices. The manual seeks to develop the skills needed to help organizations implement effective practices using external and/or internal facilitation.

### Measurement and Outcomes

- **Centers for Disease Control & Prevention (CDC) Introduction to Program Evaluation for Public Health Programs: A Self-study Guide** This resource is a “how to” guide for planning and implementing evaluation activities. The manual, based on the Centers for Disease Control and Prevention’s Framework for Program Evaluation in Public Health, assists managers and staff of public, private, and community health programs to plan, design, implement, and use comprehensive evaluations in a practical way.
• Centers for Disease Control & Prevention [Polaris Economic Evaluation Overview](#) This website provides an overview of how economic evaluation can support efforts to identify, measure, value, and compare costs and consequences of different health intervention strategies and policies.

• [The F.A.S.T. Lab – The Fidelity, Adaption, Sustainability and Training Lab](#) hosted by the Stanford University and the Palo Alto VA. The goal of the F.A.S.T. Lab is to determine how to facilitate the high-quality delivery of effective psychosocial practices in public sector mental health settings. Areas of resource emphasis include training and consultation, treatment fidelity and adaptation, and the identification of strategies that promote sustained implementation of effective practices.

• [Mixed Methods Research – NIH Office of Behavioral and Social Sciences Research (OBSSR)](#) Online resource A resource developed to provide guidance to implementation researchers on how to rigorously develop and evaluate mixed methods research applications.

• National Cancer Institute, Qualitative Research in Implementation Research in Implementation Science (QualRIS Group): [Qualitative Methods in Implementation Science Whitepaper](#) This paper focuses on the multiple ways in which qualitative methods can be effectively used to answer a range of high-priority implementation science questions and describes resources that are available to support the community.

• VA Health Economics Resource Center (HERC) [Steps to conduct economic analyses for implementation research](#)

**Research Methods and Study Designs**

• [Academy Health publication: Evaluating Complex Health Interventions: A Guide to Rigorous Research Designs](#) This guide provides a range of approaches that could be used to enhance the rigor of evaluations thus improving the quality of the evidence upon which decisions are made and ultimately improving the public’s health. **Note**, Academy Health also has created a number of publications on how to produce and use evidence to improve health care and ensure the methods, data, and workforce exist to make research more reliable and relevant found at: [https://www.academyhealth.org/evidence](https://www.academyhealth.org/evidence)

• [ACCORDS D&I Models in Health Research & Practice: Workshop on How to Plan For, Select, Combine, Adapt, Use, and Measure D&I models in Health](#) Guidance on how to plan for, select, combine, adapt, use, and measure dissemination and implementation models in health settings based on a workshop presented at the 12th Annual Conference on the Science of Dissemination and Implementation in Health.

• [National Cancer Institute recommended peer reviewed articles on research methods and study designs](#)

**Online Videos**

• [Make Research Matter – Narrative Library](#) freely accessible online library containing video vignettes and transcripts with junior and senior D&I experts of "how-to" knowledge to D&I problems.

• [UNC Implementation Science Exchange Tutorial videos](#) Free online tutorials that are narrated PowerPoint presentations by University of North Carolina faculty, research staff and other colleagues that provide brief overviews of selected topics in implementation
science, particularly focusing on research methods applied in dissemination & implementation research.

- **Training Institute for Dissemination & Implementation Research in Cancer** [TIDIRC Open Access](#) for new D&I science investigators. This open access curriculum enables new researchers to move through six online modules after establishing a D&I research project idea. Each module consists of viewing videos, completing readings, and responding to assignment questions that help support the development of a project idea. The content reflects a learning curriculum that was previously facilitated by experts in the D&I field.

**Printed Resources:**


**Professional Conferences**

- Annual Conference on the Science of Dissemination and Implementation in Health
- Biennial Society for Implementation Research (SIRC) Conference
- Academy Health Annual Research Meeting
- Academy of Management Annual Meeting
- Global Implementation Conference (GIC)
- Global Symposium on Health Systems Research
- National HSR&D/QUERI Conference Meeting
- Organizational Theory in Health Care Association (OTHCA) Annual Conference
- Society for Behavioral Medicine (SBM) Annual Meeting
- Society for Prevention Research (SPR) Annual Meeting

**EXPERT GUIDED RESOURCES**

**Mentored Opportunities**

- [QUERI Program](#) mentorship
- **VA Advanced Fellowship Program in HSR&D** The fellowship provides two years of post-residency, post-doctoral research, education, and clinical learning opportunities to eligible
physicians and associated health/nursing professionals. Fellows spend approximately 75 percent of their time in research and education and 25 percent in clinical care at competitively selected VA sites. Mentors of national stature provide guidance to fellows in rich learning environments. Graduates are expected to be role models in leading, developing, conducting, and evaluating innovative health services research in a variety of clinical settings including VHA and other healthcare institutions that seek to improve care for Veterans and the Nation

- **VHA Innovation Ecosystem (VHA IE) Innovation Fellowship Program** The VHA IE Innovation Fellowship Program, is a unique opportunity for emerging leaders with a dynamic presence, passion for innovation, and vision for the future to gain the experience and skills necessary to make a positive contribution by leading and spreading their existing innovation to additional sites. The projects should be directly relevant to the VHA’s mission and/or operations and will ideally relate to national, regional (VISN-level), or local (facility-level) strategic priorities and innovation needs. The Innovation Fellowship Program is currently accepting applications for one-year fellowship positions. Fellows will remain at their local institutions and work on existing transformational project that may involve brief placement(s) throughout the year at relevant VA sites. Based on the maturity and potential impact of the innovation project, applicants will be selected for one of the following opportunities: Senior Innovation Fellowship (SIF), for mature, large-scale innovation projects that are ready to scale or Entrepreneur in Residence (EIR), for projects with demonstrated success that are ready to be tested for real world impact. For more information, please visit VHA Innovation Ecosystem and email the VA Innovation Support Team (VAInnovation@atlasresearch.us) if you have any questions on the application process.

- **VA Quality Scholars (VAQS)** The VAQS program is based at 11 VA locations across the U.S. with the aim to develop leaders and scholars to improve healthcare. VAQS provides an interprofessional fellowship in healthcare quality improvement for physicians, doctoral-trained nurses, pharmacists, clinical psychologists and other health professionals. In this dedicated two-year fellowship, participants learn to develop and apply new knowledge for the ongoing improvement of healthcare services for VA and the nation. The VA Quality Scholars Fellowship Program offers scholars opportunities to become leaders with knowledge and skills to: 1) Improve health care delivery, health systems organization and management, and health professions education through interventions that exert positive influences in each domain; 2) Apply the knowledge and methods of health care quality improvement to the care of individual patients and populations; 3) Teach health professionals about healthcare improvement; and 4) Perform research and develop new knowledge for the ongoing improvement of the quality and value of healthcare services.

- **Institute for Implementation Science Scholars (IS-2)** at Washington University, St. Louis. IS-2 is a mentored training program for post-doctoral scholars interested in applying dissemination and implementation (D&I) research to proven behavioral and social science research (BSSR) to eliminate chronic disease disparities.

- **Duke Population Health Science Summer Institute** Courses designed for early to mid-career researchers and professionals working in health care and health services research, who want to learn new methods to expand their research design related to dissemination and implementation science, patient reported outcomes, qualitative research, and topics in population health sciences.

- **Indiana University Center for Health Innovation & Implementation Science Agile Implementation Bootcamp** The Agile Implementation Bootcamp is a 2.5 day CME accredited
course, that familiarizes trainees in the framework of Agile Implementation, accompanied by the AI Toolkit. This training is best suited for individuals seeking tools to begin implementing change in their organization.

- **Implementation Research Institute** The Implementation Research Institute (IRI) was established to advance the field of implementation science in mental health by enhancing the career development of early to mid-career investigators.

- **Colorado Pragmatic Research in Health** (COPRH) presented by the University of Colorado Adult & Child Consortium for Health Outcomes Research & Delivery Science (ACCORDS) and Clinical & Translational Sciences Institute (CCTSI). An annual conference offering more than 26 hours of presentations with real-time Q&A and focused discussions about methods, models, and measures for planning pragmatic research. This training is designed for clinical and translational investigators, including statisticians, dissemination & implementation scientists, health services and public health researchers, and program evaluators, COPRH sessions incorporate pragmatic trial planning using the PRECIS-2, pragmatic research approaches and study design, rapid qualitative and mixed methods, and stakeholder engagement.

- **Implementation Science Institute University of Pennsylvania** ISI aims to provide participants with the tools to design and execute rigorous implementation science research over 3 days. The Institute will give an introduction to the foundations of implementation science (i.e., terminology, conceptual models and frameworks, study design). Students will also receive an overview of advanced topics including implementation strategies and sustainability. The course directors will cover tips for grant writing, skill development and time will be spent writing specific aims for Implementation Science grants. ISI faculty will also explicitly describe how principles of implementation science can be applied to practical implementation efforts.

**Fellowships**

- **AcademyHealth Delivery System Science Fellowship (DSSF)** The goal of the fellowship is to provide hands-on training and professional opportunities for highly qualified researchers with a background in health services research (HSR) or related fields to enhance analytic skills and ultimately increase the capacity of the HSR workforce. The fellowship is guided by an advisory committee which provides strategic direction for the fellowship and plays a key role in selecting Fellows. The fellowship is a full-time, year-long position that takes place on site. While level of support and benefits will be determined by individual host sites, the minimum level of support will reflect National Research Service Awards stipend guidelines.

- **PRACCTIS- Prevention & Control of Cancer Post-doc Training in Implementation Science** PRACCTIS is a training program funded by the National Cancer Institute for pre-doctoral students and postdoctoral fellows. The program goal is to train future leaders in cancer prevention and control implementation science. NCI aims for the program’s unique blend of didactic curriculum and mentored research opportunities to provide the foundation for the next generation of researchers to develop solutions that reduce the burden of cancer at the local, national, and international levels. Following completion of the program, PRACCTIS trainees will be equipped with the diverse skills necessary to identify and evaluate new and effective ways to integrate scientific evidence into practice.

**Professional Training workshops**
• **Institute for Healthcare Improvement (IHI)** An influential, private institute that has been dedicated to redesigning health care into a system without errors, waste, delay, and unsustainable costs for nearly three decades. The IHI website offers a variety of free and fee-based resources, tools, white papers, and links related to improvement and implementation science. The Institute has helped develop a number of effective practices in collaboration with the VA, including rapid-cycle testing (Model for Improvement), breakthrough collaborative series, the Triple Aim, intervention “bundles,” and a framework for spread and scale, to name a few. Free tools, resources, and webinars are available as well as formal training in quality improvement topics, competencies, and strategies (e.g. improvement coaching) in which trainees earn IHI certifications.

• **Mixed Methods Research Training Program for the Health Sciences** – Johns Hopkins Bloomberg School of Public Health.

• **Mixed Methods Training Workshops** - various academic institutions via [MixedMethods.org](http://MixedMethods.org)

• **Qualitative Research Summer Intensive (QRSI)** courses on qualitative and mixed methods research – UNC Odum Institute for Research in Social Science and ResearchTalk, Inc.

• **Optimizing behavioral and biobehavioral interventions** – The Methodology Center at Penn State

• **Summer Institute on Innovative Methods** – The Methodology Center at Penn State College of Health and Human Development

• Building Just in Time Adaptive Interventions Using Micro-Randomized Trial Designs

  **Summer Institute by University of Michigan Data Science for Dynamic Intervention Decision-making Lab**

**Dissemination and Implementation Science Certificate**

• **University of Washington PhD program in Implementation Science**

• **University of Colorado ACCORDS Dissemination and Implementation Certificate Program**

• **University of California San Francisco Online Certificate in Implementation Science**