



Healthcare Provider Behavior



Sepulveda, CA 91343
Tel: 818-895-9449
Fax: 818-895-5838

Implementation Science Curriculum Outline

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Introduction

The Veterans Health Administration (VHA) has achieved international recognition for its efforts to improve the quality, efficiency and outcomes of its healthcare services. These efforts have included implementation of a range of information technology tools to support patient and clinician decision making; innovative organizational management systems such as service line management arrangements and performance measurement and feedback systems; and a diverse range of healthcare delivery innovations at the clinical “microsystem” level designed to facilitate implementation of evidence-based clinical recommendations and care processes developed through clinical and health services research efforts conducted within and outside VHA.

Many of VHA’s efforts to develop and evaluate clinical care delivery innovations to accelerate implementation of evidence-based care processes have been led by researchers and research centers funded by VHA’s Health Services Research and Development (HSR&D) Service. HSR&D’s “implementation research” efforts include disease-specific centers within the VHA Quality Enhancement Research Initiative (QUERI), several HSR&D Centers of Excellence (COEs) focusing on implementation science and a diverse set of individual projects designed to develop, apply and refine theories, concepts and methods for improving healthcare quality, outcomes and efficiency via implementation of evidence-based clinical practices.

The VA Greater Los Angeles (VAGLA) HSR&D COE, Center for the Study of Healthcare Provider Behavior (hereinafter the “Center”), is among VHA’s lead centers pursuing research in implementation science. Established in 1994, the Center’s mission is to develop and apply theories and methods for understanding healthcare delivery organization structures and processes and the professional behaviors and practices of clinicians. The Center recognizes the interdisciplinary nature of implementation science and the unique mix of policy, practice and research issues involved in studying and improving the implementation of evidence-based clinical practices in healthcare. During its 10-year history, the Center developed valuable experience and has made important contributions to this field, and has developed a growing staff of clinician and social science researchers working in implementation science. The implementation science training curriculum presented in this document is a result of the Center’s 10-year history of contributions and experiences, and it is designed to facilitate continued development of the implementation science skills and abilities of the Center’s existing staff, as well as the skills and abilities of new staff, including clinician and social science fellows and junior researchers supported by HSR&D’s various career development funding programs. The curriculum is based on a framework combining diverse ideas regarding the theoretical, conceptual and methodological foundations of implementation science and practice, and is

designed to provide implementation researchers with most of the research and management skills and experiences and insights needed to become a successful implementation researcher and practitioner. This document, developed during Fall 2004, represents an initial version of the curriculum. Updates and refinements are expected on an ongoing basis, as the curriculum faculty and trainees identify additional areas of content that should be added and existing areas requiring further refinement.

The implementation science curriculum includes (1) knowledge and skill requirements and (2) training and development activities and programs. The knowledge and skill requirements cover relevant domains of theory and research knowledge; various research methods skills and experiences; and policy, practice and management (leadership) skills and qualifications. Training activities include formal courses and seminars, informal guided reading and study, and mentored research and leadership experiences. The remainder of this document describes the conceptual frameworks used in selecting the core domains and content of the curriculum, and describes the curriculum content and activities.

Curriculum Foundations and Framework

Implementation science in healthcare is a multidisciplinary field combining elements of several areas of clinical, health services and social science research and practice. Implementation science remains poorly defined and lacks well-established frameworks, training programs and other guidance. Within VHA, the QUERI program is perhaps the primary focus of implementation science development and application; the QUERI Service-Directed Project (SDP) program and the QUERI Implementation Research Coordinators represent QUERI's core implementation research program and implementation researcher working group, respectively. The Center's implementation science curriculum is based, in part, on the SDP program announcement (funding solicitation) and the SDP appendix specifying recommended features of SDP projects and funding applications. This appendix recognizes that successful implementation research projects require an integrated plan comprising intervention and evaluation activities informed by clinical, health services and social/behavior science theory and research and incorporating practical and practice/management-oriented goals and collaborative planning and oversight. The curriculum addresses each of the components addressed in the SDP appendix, to provide implementation researchers with the knowledge, skills and abilities needed to design and conduct successful implementation projects as specified in the SDP program.

The curriculum relies on additional frameworks and input as well, including the knowledge and expert opinion of the Center's leading implementation researchers (and their knowledge of clinical, health services and social science research and practice) and the knowledge and insights of implementation researchers and publications from other VHA and non-VHA implementation researchers and practitioners.

Core Qualifications and Competencies: Curriculum Domains

The curriculum includes a series of knowledge and skill domains and a series of training activities. The knowledge and skill domains cover the theories, research findings and methods, policy and management/leadership skills and qualifications and other areas of knowledge and

practice required to succeed as an implementation researcher and practitioner. Seven distinct areas of knowledge and skills comprise the core curriculum:

1. Knowledge and familiarity with specific areas of literature
 - Quality of care: concepts, definitions, measurement techniques
 - Safety: concepts, definitions, measurement techniques
 - Value and efficiency of healthcare delivery: concepts, definitions, measurement
 - Evidence-based medicine
 - Clinical practice guidelines: development processes, attributes
 - “Quality chasm” and other writings on national and international quality, safety and value gaps
 - Core knowledge (theory, research) in clinical care, epidemiology, and health services research
 - Core knowledge (theory, research) in core disciplines of management/organization theory and its reference disciplines, including sociology, social psychology, economics, political science
 - Core knowledge (theory, research) in interdisciplinary and/or applied fields such as diffusion of innovations, organizational and individual behavior change, social marketing, patient education/behavior change, knowledge utilization,
 - Healthcare provider behavior frameworks and seminal articles
2. Research skills, qualifications and knowledge
 - Research methods skills in clinical research, epidemiology, and health services research
 - Research methods skills in management/organizational research, including quantitative and qualitative methods for studying organizational structures, policies and processes (behaviors)
 - Research methods skills in program evaluation
 - Additional specialized research skills central to implementation research (e.g., cluster randomization, formative evaluation)
 - Knowledge of IRB regulations and issues specific to implementation research (e.g., quality improvement vs. research and IRB implications, clinician/staff surveys)
 - Additional specialized content knowledge regarding basic or specialized (e.g., interdisciplinary and/or applied) issues such as sustainability.
3. Knowledge of VHA structures, policies and practice
 - VHA national, regional and local organizational structures, policies and procedures: leadership and governance structures and entities, VACO offices and programs, etc.
 - VHA entities and programs engaged in clinical policy development, monitoring and promotion (Guideline Council, Performance Measures Workgroup, OQP, PCS and its programs and committees, QUERI)
4. Knowledge of VHA data resources
 - Austin files, DSS, EPRP, SHEP, VISN data warehouses
 - Organizational surveys and other datasets

5. Knowledge of key national and international policy/practice organizations and activities
 - Familiarity with key external stakeholders in evidence-based medicine and healthcare quality improvement, including federal agencies (e.g., AHRQ, NIH, CMS, CDC) and contractors (QIOs), semi-public organizations (e.g., NCQA, NQF) and private organizations (e.g., IHI)
 - Familiarity with key stakeholders in clinical policy development and promotion (e.g., medical specialty societies) and their relevant activities (guideline development, quality improvement)
6. Leadership and other practical experience
 - National VHA leadership experience (national committees)
 - Regional (VISN) VHA leadership experience (VISN committees)
 - Non-VHA leadership experience (specialty society leadership, voluntary health organization leadership, other)
 - Local (VHA facility) leadership experience (department or clinic chief, program director)
 - University leadership experience (department chair, academic committees)
 - Other relevant leadership experience
7. Other skills and qualifications
 - Effective communication skills (written, presentation) to research, leadership (policy and practice) audiences and external stakeholder audiences
 - Effective skills in collaboration (interpersonal skills, broad perspective, generalist orientation)

Curriculum Activities

The implementation science curriculum incorporates a series of integrated training activities, including formal courses and seminars, informal guided reading and study, and mentored research and leadership experiences. The table below illustrates the use of each of these methods to provide training and experience in the content domains listed in the previous section.

	Formal coursework / seminars	Informal, guided reading	Mentored research participation	Leadership development
1. Knowledge and familiarity with specific areas of literature	X	X	X	
2. Research knowledge, skills and qualifications	X	X	X	
3. Knowledge of VHA structures, policies and practice	X		X	X
4. Knowledge of VHA data resources	X		X	

5. Knowledge of key national and international policy/practice organizations and activities	X	X	x	X
6. Leadership and other practical experience	X		X	X
7. Other skills and qualifications			X	X

Formal coursework and seminars includes graduate courses at local institutions (UCLA Schools of Medicine, Public Health and Graduate School of Management; RAND Graduate School of Policy Studies), as well as the Center’s weekly Work in Progress seminar series and ad-hoc seminars, seminar series presented at UCLA and RAND, national and international conferences and courses and others. Center implementation science mentors will work with each trainee to identify the mix of knowledge and contain domains needed to complement and supplement the trainee’s past training and current skills, and will identify a mix of formal training opportunities designed to meet these needs.

Informal/guided reading will be used to supplement formal courses and seminars to cover areas not well addressed by the formal opportunities. Center implementation science mentors will develop informal/guided reading programs on the basis of their specialized training and expertise; Center researchers include clinician and non-clinician health services researchers with formal training and expertise in a range of fields of clinical research, epidemiology, statistics, health services research, and social and behavioral sciences, including management science.

Mentored research participation will allow trainees to apply and refine their content knowledge and skills, including research methods skills and leadership skills. Mentored research participation will also supplement formal coursework and informal reading in providing trainees with the ability to further learn and apply theory and conceptual ideas and practical skills and leadership qualifications.

Leadership development in national policy, management experiences will be included for more advanced implementation science trainees who are ready to contribute to VHA policy and management activities via membership on standing and ad-hoc committees, such as the VHA/DoD Clinical Practice Guidelines Advisory Council and its subcommittees and others.