Health Systems Research (HSR)
Updated 11/30/23

PURVIEW:

The mission of Health Systems Research (HSR) is to improve Veteran health by developing, testing, and implementing strategies that improve the organization, delivery, and effectiveness of health care and related services for Veterans. Projects under HSR seek to identify, evaluate, and rapidly implement evidence-based strategies that improve access, quality, safety, equity, and experience of care delivered to Veterans. HSR is grounded in Learning Health System concepts (e.g., Friedman, 2022, Lannon et al., 2020), which emphasize the need for healthcare organizations to adopt a systematic and data-driven approach to generating and using evidence to support Veteran health improvement. The Learning Health System also promotes foundational research in HSR, including implementation and quality improvement, data science and technology, engagement of underserved, at-risk, and marginalized populations, workforce enhancement, and policy development and evaluation.

The goal of HSR is to foster research that informs improvements in Veteran outcomes based on what the National Academy of Medicine and others have termed as the Quintuple Aim (e.g., Matheny, et al NAM 2019; Cahan, et al, 2020; Nundy et al., 2021): improve outcomes, including quality and safety of health care, increase access, ensure equity, decrease cost, and support workforce. Research in this portfolio examines issues from the perspectives of multi-level interested parties (end-users, e.g., Veterans, caregivers/families, clinicians, managers, leaders, and community partners) and seeks to engage these groups in the research process. HSR also addresses the complex, often cross-cutting problems facing VA and other health care systems, as outlined in the National Academy of Medicine's Future of Health Services Research report, by using interdisciplinary methods to examine and intervene in the underlying structures, processes, and policies affecting health and healthcare. The goal is to improve patient outcomes for priorities shared by researchers and clinical/community partners, by using interdisciplinary methods and models of care with an emphasis on complex co-occurring conditions and social determinants of health.

HSR studies represent the Clinical Implementation and Public Health components of the NIH Translation Spectrum, including research in real-world settings or at the population level, in alignment with key ORD priorities focused on increasing the substantial real-world impact of research and making data work for Veterans. The HSR "laboratory" thereby includes the real-world healthcare setting and underlying communities with an eye towards improving Veteran health by implementing and scaling research-derived evidence into practice.

HSR includes the following unique areas of scientific inquiry (strategic methodology areas):

1. Discover and optimize strategies to get effective treatments to Veterans faster (implementation science)
2. Design, validate, and apply data science and knowledge management tools that improve Veteran care (data science)

3. Create and test novel approaches for engaging end-users, e.g., Veterans, providers, communities, etc. that support improved outcomes (engagement science)
4. Design and apply new systems science methods, including to improve Veteran provider workforce effectiveness, satisfaction, diversity, and retention (systems science)
5. Develop, assess, and improve VA and national policies to improve Veteran outcomes, with a focus on underserved populations (policy evaluation)

Hallmarks of HSR strategic methodology that underly these areas of scientific inquiry are based on the Patient-Centered Outcomes Research Institute (PCORI) Methodology Standards, the Agency for Healthcare Research and Quality (AHRQ) and VHA Office of Academic Affiliation Learning Health System Core Competencies, the VA Quality Enhancement Research Initiative (QUERI) Roadmap, as well as recommendations from the National Academy of Medicine's Future of Health Services Research report. HSR involves the use of interdisciplinary, collaborative team science approaches comprised of researchers, clinical partners, and other end-users, from the point of defining a shared research agenda to the choice of appropriate research methods, treatment or practice implementation, and dissemination and sustainment plans. HSR-funded research also encompasses use of cluster-randomized or adaptive trial designs (e.g., to test implementation strategies), systematic reviews, policy or systems analysis, patient-centered outcomes assessment, and mixed-methods, to name a few, which ultimately strive to assess how health care interventions work for Veterans, their impact on providers, systems, and communities, and what it will take to sustain them once the research ends. HSR emphasizes outcomes that are important to Veterans (e.g., access, symptoms, quality of life, equity, and acceptability) rather than strictly physiologic outcomes, as well as outcomes important to the provider and health organizations serving Veterans (e.g., staffing, efficiency, value, and clinical treatment sustainment). HSR projects are often multidisciplinary involving expertise from various clinical fields (medicine and all its specialties, nursing, and other health care professions), public health, implementation science, health informatics, systems science and engineering, psychology, sociology, economics, public policy, social sciences, anthropology, and organizational behavior. It uses a variety of research approaches and methods (experimental and quasi-experimental studies, survey research, data analytics, biostatistics, psychometrics, econometrics, modeling techniques, etc.).

Research that fits HSR

HSR topic areas are in part driven by VA operational partners and closely align with VA and national priority goals related to Veteran health and healthcare, as described in the VA Strategic Plan, VHA Long-Range Goals, legislative priorities, as well as trends reflected in the VHA Network Director and Medical Center Director Performance Plans and current VA Agency Priority Goals (APGs). The VA Strategic Plan (Appendix D) also highlights the HSR/QUERI process for how researchers can elicit priorities from multi-level interested parties on a regular basis in order to ensure their research is highly relevant to Veterans and other interested parties. Examples of current priorities linked to APGs include but are not limited to: connect Veterans to the soonest and best care, hire faster and more competitively, engage underserved, at-risk, or marginalized populations, improve benefits claims process, and support the workforce. HSR

researchers work with their clinical and operations partners as well as across end-user groups to identify relevant priority areas of research based in the VA Strategic Plan Learning Agenda. To this end, HSR is the scientific home for foundational research where the focus may not be a single condition but on care for complex chronic conditions as well as the care experience among priority populations (e.g., women Veterans, homeless, Veterans with disabilities, those with complex chronic conditions), across care settings (e.g., primary care, virtual care, inpatient/ER care, long-term care, community care), and programs or policies outside the clinic walls (e.g., disability or education benefits, purchased care, caregiver support).

Studies within the purview of HSR include those that:

- Validate and test novel implementation (change) strategies using cluster-randomized clinical trial or other designs (especially hybrid effectiveness implementation designs) to enhance more rapid uptake, scalability, and sustainment of effective treatments, programs, or policies into real-world settings across a diverse health system (also includes studies of strategies to de-implement low-value care).
- Develop and evaluate new data science measures, methods, or tools to curate, validate, and optimize use of health and health care data, especially Veteran-centric outcomes, for routine use in knowledge management in clinical practice.
- Develop, validate, and apply systems science or engineering models for enhancing the effectiveness, quality, safety, and efficiency of health care for Veterans especially across different settings (e.g., primary, specialty, mental health, inpatient/ER, community-based care settings).
- Develop, test and scale novel strategies to optimize engagement of Veterans, caregivers/families, providers, communities, and other interested parties in the research process, including research priority-setting, incorporation of Veteran-centered outcome and lived experience data, and intervention development and implementation.
- Implement and assess the impact of programs and policies for underserved, at-risk, or marginalized Veteran populations on Quintuple Aim goals, including but not limited to populations experiencing homelessness, women Veterans, LGBTQ+ Veterans, aging Veterans, those living in rural settings, those with complex chronic physical or mental health conditions, or Veterans with disabilities.
- Assess impacts of health care workforce programs and policies on Veteran outcomes, including novel approaches to develop clinical, organizational, and leadership capacity among frontline staff and clinical managers.
- Develop and assess programs or policies (e.g., Veterans benefits, legislative mandates, national clinical standards of care, Veterans justice programs) that address gaps in Veteran health equity or social determinants of health.

Research that does not fit HSR

- In general, studies involving clinical interventions that are still regarded as experimental are not in the domain of health services research (i.e., basic, pre-clinical, or clinical research efficacy or effectiveness studies); especially studies of experimental drugs, procedures, or devices tested in tightly controlled, select patient populations.
- Studies involving interventions or treatments for a specific condition or disease that still require approval for routine use in VA clinical settings. In general, disease- or condition-specific efficacy or effectiveness studies align with the other Broad Portfolios (e.g., Medical Health and Aging; Brain, Behavioral, and Mental Health; Rehabilitation) or Actively Managed portfolios that are focused on a specific disease or condition. These studies, while not under the purview of HSR, are encouraged to have a secondary aim that assesses implementation feasibility in real-world practice- Cooperative Studies Program Implementation Planning Assessment Tool (also see Curran et al, 2012, Curran et al. 2022 Hybrid Type 1 effectiveness studies).
- Epidemiology studies focused on describing the clinical course of disease and effectiveness of individual treatments rather than complete processes of care.
- Research studies on the effectiveness of actual screening and treatments relating to prospective clinical trials.
- Data science studies that exclusively focus on molecular, physiologic, or genomic modeling.
- Computer software development efforts without a focus on their direct application and sustainment in routine care settings.
- Efficacy or effectiveness studies where the primary outcomes are focusing on the physiologic processes (e.g., cardiac remodeling, testing sleep as assessed by formal sleep studies) and outcomes are organ-specific measures (e.g., coronary blood flow).
- Studies emphasizing specific functional outcomes related to individual disabilities. In general, these studies are aligned with the Rehabilitation Broad Portfolio.
- Studies where behavioral health interventions are targeting specific mental health diagnoses such as anxiety disorder or depression and where they are delivered in the context of specialty mental health care (these are more appropriate for the Brain and Behavioral Health Broad Portfolio for example).
- Studies requiring primary data collection of patient outcomes using specialized rather than general instruments (e.g., grip strength, balance, detailed cognitive performance).

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