

Learning Health System Competencies: Training the Next Generation of Researchers

The Learning Health System (LHS) is a novel and rapidly evolving approach for improving the outcomes of individuals, populations, and health care organizations. However, there has been limited attention given to the unique attributes and skills of LHS researchers—individuals who are embedded within a health system and collaborate with its stakeholders to produce novel insights and evidence that can be rapidly implemented to improve the outcomes of individual and populations and health system performance. Moreover, most research training programs are focused largely on supporting knowledge generation but do not specifically support the conduct of research within LHSs. To address these needs, AHRQ developed a set of core competencies to guide the design, implementation, and evaluation of training programs for LHS researchers. In September, AHRQ, in partnership with the Patient-Centered Outcomes Research Institute (PCORI), released a new funding announcement for a career development program to build a critical and sustainable LHS research workforce to foster system-wide improvement.

Goals

The goal of this career development program is to develop core competencies for LHS researchers and address the unique training needs of investigators leading efforts within a LHS to transform care delivery. Training programs are expected equip scholars to advance the field through their training and scholarship as the next generation of LHS researchers.

Process

AHRQ convened a technical expert panel with experts from LHS, health services research (HSR), and patient-centered outcomes research (PCOR) fields and conducted interviews with key informants to guide the development of the LHS researcher core competencies. The application of the newly developed LHS core competencies will help guide a training program designed to create the next generation of researchers, an LHS research workforce. The purpose of the institutional mentored career development program is to train clinical and research scientists to have the skills to support and lead efforts to apply PCOR methods and conduct PCOR in a LHS to facilitate rapid implementation of evidence that will improve care quality and patient outcomes.

Results

The iterative development process yielded seven competency domains:

- 1. Systems Science.** To understand how health systems operate and how to apply systems theory to research and implementation.
- 2. Research Questions and Standards of Scientific Evidence.** To ask meaningful questions and evaluate the usefulness of scientific evidence and insights.
- 3. Research Methods.** To conduct research within the context of complex health systems using appropriate study designs and analytic methods to assess outcomes of interest to health systems stakeholders.
- 4. Informatics.** To know how to use information systems to conduct LHS research and improve patient and health system outcomes.

- 5. Ethics of Research and Implementation in Health Systems.** To ensure that research and quality improvement done in health care settings adheres to the highest ethical standards.
- 6. Improvement and Implementation Science.** To reduce avoidable variation in process and outcomes and ensure the systematic uptake of research findings in a health system.
- 7. Engagement, Leadership, and Research Management.** To engage stakeholders in all aspects of the research process and effectively lead and manage LHS research teams and projects.

A total of 33 core competencies were prioritized across these 7 domains.

The new competencies build on prior foundational HSR and PCOR competencies and address the unique training needs of researchers leading efforts within a LHS to transform care delivery. Programs are expected to prepare newly trained clinician and research scientists for independent research careers and equip scholars to advance the field through their training and scholarship as the next generation of LHS researchers.

Promoting LHS capability

This project promotes LHS capabilities to improve health outcomes and quality by conducting research that matters to health systems and that answers health system questions, using health system data for system-wide improvement.

For More Information

- LHS Competencies Website: www.ahrq.gov/LHStrainingcompetencies
- AHRQ and PCORI Learning Health Systems Mentored Career Development Program (K12) FOA: <https://grants.nih.gov/grants/guide/rfa-files/RFA-HS-17-012.html>