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Via Electronic Submission (LearningHealthSystem@AHRQ.hhs.gov)

February 27, 2017

Sharon Arnold, PhD
Acting Director
Agency for Healthcare Research and Quality (AHRQ)
U.S. Department of Health and Human Services
5600 Fishers Lane
Rockville, MD 20857

Re: Request for Information (RFI) Regarding Learning Healthcare Systems, FR Doc. 2017-00548

Dear Dr. Arnold:

The Association of American Medical Colleges (AAMC or Association) welcomes the opportunity to comment on the Agency for Healthcare Research and Quality's (AHRQ's or the Agency's) *Request for Information Regarding Learning Healthcare Systems,* 82 Fed. Reg. 3796 FR Doc. 2017-00548 (January 12, 2017). The AAMC is a not-for-profit association representing all 147 accredited U.S. and 17 accredited Canadian medical schools, nearly 400 major teaching hospitals and health systems, and 80 academic and professional societies. Through these institutions and organizations, the AAMC represents 160,000 faculty members, 83,000 medical students, and 115,000 resident physicians.

AHRQ's ongoing contributions continue to lead the nation in determining what is effective in healthcare. The nation's medical schools and teaching hospitals, members of the AAMC, conduct and produce much of the research funded by AHRQ and also benefit greatly from the resources disseminated by AHRQ. As an example, the annual *National Healthcare Quality and Disparities Report* issued by AHRQ is an important companion to institutions' community health needs assessments to help track progress toward health equity. AAMC members also participate in and use the AHRQ Health Care Innovations Exchange, which rapidly disseminates evidence-based tools and strategies for large-scale implementation in the healthcare system. Research conducted by grantees at AAMC-member institutions has led to significant changes in medical research, practice, and policy, including improving access to care and strengthening quality. For example, this work is enhancing the ability of health systems and healthcare providers to identify and address clinical care quality and safety issues. Medical education also now integrates instruction on quality and patient safety for students and residents into the curriculum, and AHRQ research on topics such as prevention and chronic care is widely incorporated in continuing medical education (CME) offerings.

The AAMC applauds AHRQ for seeking information from healthcare delivery organizations about current challenges they are facing and solutions they are implementing as they seek to become learning

healthcare systems (LHS). AAMC also supports AHRQ as it seeks to identify high-leverage opportunities for the Agency to support this transformation.

Among the AAMC's member institutions are numerous organizations engaged in activities that support a LHS, often locally. While exemplars exist, there is an ongoing need to support even more institutions in their efforts to keep pace with the rapid changes in healthcare research and care delivery. Further, AAMC recognizes that it is essential that we learn from the local LHSs and determine what is generalizable and can be implemented beyond a single institution. Additionally, to fully realize healthcare that is safer, of higher quality, more accessible, equitable, and affordable, there is a need to demonstrate the ability of organizations to easily pool and share data across institutions. Doing so will provide more robust opportunities to learn from the best evidence and apply that information in real-time to benefit patients, providers, and enhance the value of healthcare.

AAMC offers comments on the following four domains derived from the experiences of large teaching hospitals and health systems across the U.S.: 1) LHSs utilizing their own data; 2) LHSs ensuring evidence is applied consistently throughout the organization; 3) LHSs utilizing metrics; and 4) LHSs involving patients and families. In the last section, AAMC provides input on how AHRQ can significantly impact organizations and LHSs.

Across all the domains AAMC wishes to emphasize that there is currently variability among LHSs. There is much to learn about what enables that variability to persist; how local LHSs can be strengthened; what is generalizable and can be implemented beyond a single healthcare system; and understanding the ability to collaborate across institutions.

1. Learning Healthcare Systems Utilize Their Own Data

Inform Clinical and Organizational Improvements in Care Delivery, Design, and Efficiency

Organizational quality data and financial performance data serve as the platform for major teaching hospitals and healthcare systems to improve delivery, design, and efficiency. To maximize the beneficial uses of the data, they need to be easily accessible, timely, standardized, and patient-centric. Data generated in healthcare delivery – whether clinical, process, or financial – should be gathered in digital formats, compiled, and secured as resources for managing care, improving processes, strengthening public health, and generating knowledge. [1] Exemplars from AAMC teaching hospitals and healthcare systems include:

Exemplars:

- Several institutions such as Johns Hopkins Medicine, use data scorecards and dashboards to drive decisions regarding operational improvements at all levels of the organization. Examples include using their own data to improve care delivery and efficiencies such as hospital bed capacity management, operating room processes, and emergency department throughput of patients in a timely manner.

[1] Institute of Medicine/National Academy of Medicine. *Best Care at Lower Cost: The Path to Continuously Learning Health Care in America.* Committee on the Learning Health Care System in America. Washington, DC: National Academies Press; 2012.

- Using their own data to inform their environmental design – for instance alarm usage, access control, and emergency room re-design.
- Other institutions such as, the Chicago Stritch School of Medicine, Vanderbilt Health, Massachusetts General Hospital, and others have created information resources which ease analysis and understanding of electronic health record data and facilitates preparations for research queries.

Inform Strategies to Address Population Health and Healthcare Disparities

In meaningful ways, healthcare organizations are increasingly utilizing their own data to address population health and healthcare inequities. Exemplars from AAMC teaching hospitals and healthcare systems include:

Exemplars:

- Massachusetts General Hospital is ensuring that all patients regardless of race, ethnicity, and primary language spoken, receive proper care. The institution collects patient demographic information and stratifies its clinical data to look at rates of compliance with guidelines for heart attack, heart failure, pneumonia, and surgery. They found no instances where underrepresented patients (defined as non-white race) received less care than patients of white race.
- The Ohio State University Wexner Medical Center uses quality and financial data to identify target populations and make improvements within defined episodes of care, for example, hip and knee replacement surgeries. The institution also uses data pertaining to access and care over long periods of time. Chronic healthcare conditions are informed by this data and helps the organization formulate and implement population health strategies.
- At Henry Ford Health System (HFHS), disparities research encompasses the study of potential cultural, biological, behavioral, social, environmental, and medical contributors to racial and ethnic health disparities. The Health Disparities Research Collaborative provides a platform for the support and collaboration of HFHS investigators working to understand these issues across the organization and patient communities they serve. Additionally, HFHS will soon be utilizing an equity dashboard to track nearly 20 quality metrics stratified by patient race, ethnicity, and primary language. Measures include 30-day readmissions rates, average length of stay, mortality, and patient satisfaction. Senior level leaders will review the dashboard regularly to identify opportunities for improvement and for research projects.
- NewYork-Presbyterian Hospital (NYP) began pioneering models for accountable population-based healthcare in Washington Heights-Inwood, a predominantly underserved Hispanic neighborhood of more than 200,000. NYP is refining its successful model for adaptability to neighborhoods across the United States. Integral to NYP's journey is its significant investment in the healthy future of neighborhood children and adolescents. In partnership with Columbia University Medical Center, NYP built a network of school-based health clinics that provide mental health and primary care services to more than 7,000 students.
- AAMC is working with 8 institutions in an AHRQ-supported Health Equity Cohort to ensure that community- and patient-health promoting actions are coordinated and effective by mapping the activities into coordinated systems, and then evaluating the impacts for patients, communities, learners, and the institutions. Participating institutions include: Eastern Virginia Medical School, Florida International University Herbert Wertheim College of Medicine, MedStar Health, University of Mississippi Medical Center, University of Rochester Medical Center, Vanderbilt University Medical Center, Virginia Commonwealth University School of Medicine, and Western Michigan University Homer Stryker MD Medical School.

Methodological and/or Data Quality Issues

Issues pertaining to methodology and/or data quality from large teaching hospitals and health systems include:

- The lack of longitudinal data for patients that go outside of a single healthcare system to receive care can be a limiting factor and challenge in terms of tracking patient outcomes and continuous learning. For example, pre-admission care or post-discharge care is not available, which contributes to the challenges of managing population health.
- The data that healthcare providers look at and act on is only as good as the data that goes into the data collection systems (e.g. EHRs). Consistent and accurate clinical documentation is both the key to success and one of the greatest challenges.
- Standardizing and linking the multitude of data sources – from EHRs and beyond – relevant to patient outcomes and care management is overwhelmingly cumbersome. The burdensome task of integrating many data sources distracts healthcare delivery organizations from their core functions, effectively acting as a blockade to quality and innovation.
- Some of the national metrics are difficult to replicate and it makes it difficult to gauge performance and impact change.

2. Learning Healthcare Systems Ensure Evidence is Applied Consistently Throughout the Organization

Healthcare delivery organizations are ensuring evidence generated from their own data and/or adopted from external research is applied in a consistent manner throughout the organization, including across different specialties, levels of care, and clinical sites. Exemplars from AAMC teaching hospitals and healthcare systems include:

Exemplars:
- Several institutions are using clinical practice guidelines and decision tools and evaluating the use across their organizations. The key guideline recommendations are integrated into the EHR system to guide practice at the point of care. Practice variability is measured and feedback is provided to physicians.
- Vital to the consistent application of evidence is constant monitoring and performance management, which may vary from institution to institution. Overall organizations should embrace transparency of data and consistent display of data so that it is impactful and can be responded to in actionable ways.
- For example, to address hand hygiene performance, Johns Hopkins Medicine is sharing data, tools, and best practices. Via an internal website, Hopkins Hands, employees share hand-hygiene compliance data at the unit, department, and facility level for Hopkins Medicine, as well as data by caregiver type. Hopkins Hands, which was created by a team of infection preventionists and Johns Hopkins Medicine Marketing and Communications, also features improvement toolkits, best practices, stories from hand hygiene champions across the system and other resources. Organization-wide safety and quality performance dashboards help to disseminate hand-hygiene compliance data, as well as data on other safety and quality measures.

3. Learning Healthcare Systems Utilize Metrics

In varying ways, learning healthcare systems are utilizing metrics to understand the degree to which they are functioning as a system; monitor progress on the rate of moving clinical evidence into practice; and

evaluating the consistency of application of evidence across the organization. Exemplars from AAMC teaching hospitals and healthcare systems, as well as the research evaluation field, include:

Assess Functioning as a System, Monitor Progress, and Evaluate Consistent Application of Evidence

Exemplars:

- A collaboration at Oregon Health Sciences University with the department of medical informatics, schools of nursing and pharmacy, and human resources has contributed to the development and testing of an EHR rounding simulation to improve communication and reduce errors in the intensive care unit (ICU). The EHR-based cases have been integrated into a full ICU rounding simulation to test effective information gathering, recognition of patient safety issues, and interprofessional communication. Utilizing metrics they have demonstrated that the simulated rounds workflows are similar to the actual ICU rounds and that there are significant silos in data extraction between the three professional groups. Even though the institution utilizes team-based rounding, and the team can act as a safety net for missed errors, there are still blind spots in the system's ability to recognize significant patient safety items.
- At Wake Forest Baptist Health a team is testing the use of an EHR supported clinical decision aid and two serial blood protein measurements to identify patients with chest pain who can safely be discharged without objective cardiac testing. The approach bridges a transformative collaboration between research, education, and health systems operations to more effectively and efficiently provide patient care.
- At The Ohio State University Wexner Medical Center, patient access and satisfaction in the inpatient and ambulatory settings, financial performance, and deployment of bundled payments are ways in which metrics are used.
- Considerations and limitations of metrics that are most important in the current research evaluation field have been described in the report, *Measuring Research: A Guide to Research Evaluation Frameworks and Tools.* [2]

Set Organizational Goal Setting, Employee Performance Reviews, and Internal Compensation

Exemplars:

- Large teaching hospitals and health systems utilize metrics in enterprise-wide scorecards that are completely aligned with organizational goals that address elements such as: service and reputation (e.g., HCAHPS); quality and safety (e.g., readmission); innovation and strategic growth (e.g., new visits with a physician); productivity and efficiency (e.g., appointment access); financial performance (e.g., net margin); and measures of quality and cost to gauge the value of care provided to patients.
- In some cases, senior executives have their compensation tied to performance of the organization. Sometimes it cascades down to department chairs and managers.
- In addition, financial (i.e., net operating margin) and patient experience (i.e., HCAHPS) goals are tied to compensation as a non-discretionary bonus across all levels of an organization.

[2] Guthrie S, Wamae W, Diepeveen S, et al. *Measuring Research; a Guide to Research Evaluation Framework and Tools.* RAND Europe; 2013.

4. Learning Healthcare Systems Involve Patients and Families

Learning healthcare systems are increasingly involving patients and families in their efforts. Exemplars from AAMC teaching hospitals and healthcare systems include:

Exemplars:

- Patient advisors are involved in the choice of metrics and more importantly in the way the performance is displayed.
- Many institutions have patient and family advisory councils and include representatives on select quality committees.
- Some institutions shadow patients who receive care to guide process improvement efforts.
- In the Nashville, TN region The Community Engagement and Research Core (CERC) is a partnership between Meharry Medical College and the Vanderbilt University Medical Center which brings academic and community partners together to improve community health and healthcare through research. CERC shapes and supports innovative and translational community-engaged research by preparing scientists to impact the public's health, building the capacity for communities to engage in research and creating transformative strategies and structures to support academic-community partnerships.

5. How AHRQ Can Have a Significant Impact on Organizations and Learning Healthcare Systems

AAMC supports AHRQ as it seeks to identify meaningful opportunities for the Agency to assist healthcare delivery organizations in realizing their fullest potential as LHSs. The AAMC firmly believes in the value of research in health services, implementation, and outcomes as the nation continues to strive to provide high-quality, efficient, and cost-effective healthcare to improve the health of all. Continued and robust funding for AHRQ is critical to help achieve these goals. Additional ways AHRQ can have a significant impact include:

- Support healthcare organizations to manage large data sets from multiple sources, for example, clinical, operational, and financial for easier longitudinal analysis. Examples of helpful efforts include support for development and validation of predictive analytics, proposals that promote data sharing among institutions, and tools that facilitate integration and connection to population health data.
- Identify models of accountable care organization (ACOs) focusing on characteristics which can be replicated. Learning healthcare system models are well-suited for ACOs, as medical centers receive fixed monthly per-patient payments regardless of the healthcare utilization. Yet there are potentially numerous challenges related to understanding the potential value of the contributions of LHSs to the development of a national adaptable LHS. [3] Is it possible to successfully scale local LHS solutions across a wide variety of clinical episodes and clinical systems?
- Encourage efforts across all healthcare technology to achieve interoperability so that data flow easily throughout the healthcare ecosystem to improve the lives of patients and reduce the burden on providers, hospitals, and health systems. For example, support the standardization of data fields across EHRs.

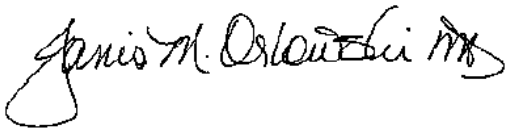
[3] Smoyer WE, Embi PF, Moffatt-Bruce, S. *Creating Local Learning Health Systems: Think Globally, Act Locally.* JAMA. Dec. 2016. Vol. 316, No. 23, pp. 2481-82.

- Continue to focus on research that helps develop robust methods and approach to identify inequities in healthcare.
- Include requests for process evaluation as appropriate in RFPs.

AAMC encourages the Agency to continue its important work supporting the development of LHSs. The AAMC supports AHRQs continued investment in the creation of tools and training materials for health professionals and healthcare delivery organizations, the development of quality and safety improvement measures, and convening learning collaboratives focused on accelerating the development of learning healthcare system capabilities within healthcare delivery organizations.

If you have additional questions on learning healthcare systems, please contact Alex Ommaya (akommaya@aamc.org, 202-741-5520) or Jennifer Bretsch (jbretsch@aamc.org, 202-282-0611).

Sincerely,



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