

# Third Annual Workshop of the Comparative Health System Performance Initiative

## Executive Summary

The Agency for Healthcare Research and Quality (AHRQ) hosted the Comparative Health System Performance (CHSP) Initiative's third annual workshop on September 25, 2018, to promote shared learning and advance the initiative's objectives. Key staff from AHRQ, the three Centers of Excellence (CoEs), and the Coordinating Center attended the 1-day in-person workshop, along with Federal data stewards and stakeholders, as well as members of the CHSP Technical Expert Panel (TEP).

The workshop focused on research and analyses undertaken by the CoEs, AHRQ, and the Coordinating Center during the past year, building on prior years' efforts to build mature data cores and field national studies. Therefore, this year's agenda was dedicated to reviewing the CHSP investigators' approaches to their current research, preliminary findings, and relative analytic strengths and weaknesses.



The workshop featured presentations by investigators studying different aspects of system characteristics, especially of system performance, a central focus of the initiative. Finally, workshop participants discussed strategies for disseminating research, engaging stakeholders, and sustaining CHSP data cores. This brief is a review of these presentations and the key themes that emerged from group discussions.

## I. Introduction

To support effective dissemination and use of patient-centered outcomes research (PCOR) among health care systems, AHRQ created the CHSP Initiative.<sup>1</sup> Beginning in 2015, AHRQ established CoEs at the Dartmouth Institute, the National Bureau of Economic Research (NBER), and the RAND Corporation, as well as a Coordinating Center at Mathematica Policy Research. Over the 5-year initiative,

the three CoEs and Coordinating Center are working in consultation with AHRQ to identify, classify, track, and compare health systems; study how health care systems use PCOR and other forms of evidence in practice; and identify the characteristics of high-performing health care systems.

Staff from AHRQ, the CoEs, and the Coordinating Center attended the third annual workshop, along with Federal data stewards,

<sup>1</sup>Details are available at <https://www.ahrq.gov/chsp/about-chsp/index.html>. Accessed December 6, 2018.

stakeholders, and members of the project's TEP. In addition, researchers from CoE affiliate organizations were invited to attend the workshop. Dartmouth's partners included researchers from the University of California at Berkeley, Harvard University, the Mayo Clinic, and a national group of researchers focused on improving health care value through data and collaboration, the High Value Healthcare Collaborative.

NBER's partners included researchers from Harvard University and the Network of Regional Healthcare Initiatives. RAND's partners included researchers from Pennsylvania State University, the University of California at Los Angeles, Stanford University, Harvard University, and four regional health care measurement and improvement collaboratives. Most participants attended the meeting in person, with several participating virtually.

Each CoE's principal investigator and co-principal investigator participated in a virtual planning committee that met three times between April and August 2018 to define meeting objectives and develop the meeting agenda. The third annual workshop meeting had two primary objectives. First, the workshop stimulated communication between participating CoEs so they could share methods and findings for CoE and stakeholder input. Second, the workshop was an occasion to discuss potential strategies for disseminating research, engaging stakeholders, and sustaining CHSP data cores.

## II. Research Sessions

The third annual workshop included three research sessions for selected presentations from the CoEs and the Coordinating Center. Each session included three or four presentations from CHSP investigators related

to the central theme of the session followed by a moderated discussion. The three research sessions focused on varying patient care processes in systems, insights from new data sources for studying systems, and approaches to comparing health system performance.

### Research Session 1

The first research session showcased three examples of CoE research describing differences in patient care processes in systems. NBER looked into how systems allocate patients among member community hospitals and teaching hospitals. Dartmouth shared preliminary findings from the 2017–2018 National Survey of Healthcare Organizations and Systems related to systems' use of evidence-based processes to achieve value-based patient care. Finally, RAND's presentation provided insights from a mixed-methods study to understand multilayered health care delivery systems.

Nancy Beaulieu from Harvard Medical School, in association with the NBER CoE, presented "Health Systems and Community Appropriate Discharges," noting that patients' choice of hospital can depend on several factors, including distance from the hospital, patient characteristics, and reason for admission. Given those factors, researchers examined whether health systems can facilitate better allocation of patients' admissions to an appropriate inpatient setting (community or teaching hospital). In this case, better refers to more efficiently matching uncomplicated routine patients to community hospitals and those needing more specialized care to teaching hospitals.

Using a relational database with information on physicians, physician practices, hospitals, and health systems, NBER analyzed 2014 admissions data by type (for example,

emergency, urgent, or elective). They focused on patients living in a community hospital provider service area where the distance to a community hospital is less than the distance to the teaching hospital. NBER researchers found that patients are more likely to receive care in teaching hospitals if their local community hospital is a member of a health system with a teaching hospital; this effect was strongest for urgent admissions. Understanding factors influencing the sorting of patients to hospitals in systems will help identify opportunities for more efficient matching by high-performing systems.

Steven Shortell from the University of California at Berkeley, in association with the Dartmouth CoE, presented “Are U.S. Healthcare Systems Providing Evidence-Based Processes to Achieve Value-Based Patient Care?” This presentation previewed preliminary descriptive analysis from the 2017–2018 National Survey of Healthcare Organizations and Systems. The survey included 3,300 respondents from health care organizations across the United States and contained items pertaining to the use of evidence-based care improvement processes.

More specifically, the survey included items related to electronic health record (EHR) functionality, use of registries, prevention and screening, and patient engagement for high-need patients. Shortell also provided preliminary findings by system type (complex integrated delivery systems, simple integrated delivery systems, and systems without hospitals). Attendees appreciated the comparison of processes by system, because this work forms the foundation for future indepth analysis on the use of evidence-based processes to achieve value-based patient care.

Susan Ridgely from RAND presented a mixed-methods qualitative study, “Understanding

Multi-Layered Health Systems: Secondary Data Gets You Only So Far.” The main goals of the study were to describe the evolving health care delivery landscape, learn what actions health systems are taking to improve performance, and understand how health systems obtain new clinical evidence. To achieve these goals, RAND analyzed data from virtual site visits (combining key informant interviews, descriptive surveys, and document review) from a convenience sample of 25 health systems in four partner States. These States are known to be leaders in collecting and publicly reporting performance data (Minnesota, Wisconsin, California, and Washington).

Analyzing the first eight systems, RAND observed within-system variation both in mechanisms (e.g., employment of physicians, systemwide EHR, standardization of service lines) and level of influence. They concluded that data from secondary sources can help identify and map health systems but do not adequately describe them or the variation that exists within and across systems. Ridgely suggested that more detailed and nuanced information on health system characteristics is needed to examine the degree to which health systems can influence performance. Several workshop attendees noted the value in having qualitative data to expand on relationships that appear to be complex or unclear from quantitative data, particularly secondary datasets that were not collected with analysis of health systems in mind.

## **Research Session 2**

The second research session included presentations highlighting new data sources for studying systems. NBER used secondary data to examine the prevalence and scope of pediatric services in the United States. Dartmouth outlined its work identifying and

comparing care across systems using secondary data. Finally, RAND discussed preliminary findings from qualitative research on physician arrangements and financial incentives for health systems.

Alyna Chien from Harvard Medical School, in association with the NBER CoE, presented “The Prevalence and Scope of Pediatric Services in the U.S.: Hospitals, Physicians and Systems.” Chien’s study examined how often pediatric expertise is present in systems and how often pediatric-serving entities are able to provide services for low-, medium-, high-, and highest risk pediatric patients.

Chien sourced cross-sectional data for this research from NBER’s cross-sectional longitudinal enhanced database (EDB), which includes hospital and physician information. Sources include the Centers for Medicare & Medicaid Services (CMS) National Plan and Provider Enumeration System file, the American Hospital Association Hospital Survey, and SK&A physician and hospital data of providers and health systems. Workshop participants noted that NBER’s work on the prevalence and scope of pediatric services in the United States highlighted the importance of comparing the availability, safety, and costs associated with pediatric services in systems.

Carrie Colla from Dartmouth presented “Where Do Patients Get Primary Care?” This study aimed to describe the extent to which primary care occurs inside and outside of health systems as well as across different types of systems. Researchers linked 2015 Medicare fee-for-service claims and Health Care Organizations and Systems data to compare:

- Proportion of care received across types of systems and outside of systems,
- Share of patients assigned to a system by Hospital Referral Region (HRR),

- Patient characteristics controlling for HRR, and
- Utilization controlling for patient characteristics and HRR.

Understanding where patients receive care promotes a more in-depth understanding of how to identify the benefits and drawbacks of consolidation/integration for systems versus independent practices.

Rachel Reid from RAND presented “Physician Compensation Arrangements/Financial Incentives in Health Systems.” The researchers’ main objectives were to:

- Describe the type and mix of incentives used to influence the behavior of frontline physicians,
- Explore factors that influence incentive systems’ design,
- Examine use of behavioral nudges to improve quality and cost performance, and
- Examine the relationship between varying incentive structures and performance.

Data for this study are currently being collected via phone surveys and interviews using a convenience sample of 25 health systems in RAND’s four partner States noted above. Reid’s presentation described preliminary findings on how organizations pay primary care providers and the role of productivity, quality, and patient safety in determining performance incentives. Reid also noted the importance of thorough, qualitative data collection, because the variables are complex and interdependent and might be difficult to capture through secondary data sources.

### **Research Session 3**

The third research session consisted of presentations that investigated approaches to comparing health system performance.



NBER studied oncology care delivery system performance. Dartmouth analyzed use of patient-reported outcome (PRO) measures across different types of systems. RAND summarized its work developing a single quality measure for health system performance. Finally, the Coordinating Center discussed the relative performance of health systems under the Comprehensive Care for Joint Replacement (CJR) Model.

Christina Nguyen from Harvard Medical School, in association with the NBER CoE, presented “Oncology Care Delivery Systems,” which analyzed oncology care delivery service performance among systems. Researchers used the EDB to compare four different oncology delivery care models. The main objectives of the study were to:

- Compare the organization of oncology care within systems and outside systems,
- Describe the distribution of oncologists and patient accessibility to systems,
- Examine how organization and access to oncology care systems affect end-of-life care, and
- Investigate comprehension and integration of care for cancer patients.

Because oncology care requires multidisciplinary treatment, understanding and comparing various oncology delivery models can help identify efficiencies for delivering oncology care.

Hector Rodriguez from the University of California at Berkeley, in association with the Dartmouth CoE, presented “Health Care Systems with Advanced Health Information Technology Capabilities Are More Likely to Routinely Use Patient-Reported Outcome Measures.” This study examined the extent to which different organizational structures and

resources are associated with greater adoption and use of PRO measures among all hospitals and medical groups within a health care system.

The study focused specifically on

- Ownership and management of hospitals and medical groups,
- Use of advanced health information technology (IT), and
- Use of a single electronic health record.

For this analysis, researchers analyzed data from the 2017–2018 National Survey of Healthcare Organizations and Systems. Tracking PRO measure usage among systems with different attributes will enable better identification of system attributes that promote greater use of PRO measures by systems. Further, no national data currently exist regarding the use of multiple EHRs, advanced health IT functions, and PROs among health care systems.

Amelia Haviland from RAND presented “Measuring Health System Overall Quality with Item Response Theory.” The researchers noted a need for a single-item quality measure that could be applied across systems. For the purposes of this work, the researchers defined a health system as an entity consisting of at least one hospital and at least one physician organization joined together by ownership or a contracting relationship for payment and service delivery.

Researchers developed a single-dimension construct using a Bayesian item response model based on contributing clinical measures. In light of conceptual differences between costs and performance, RAND plans to develop a second measure pertaining to the cost of care. The researchers analyzed 2015 ambulatory performance data for physician organizations

from Minnesota Community Measurement, which consist of data from 43 health systems in Minnesota. Workshop participants expressed the value in having a single-item quality measure that can be applied across systems, because quality measures for systems typically focus on specific aspects of system performance.

Rachel Machta from the Coordinating Center at Mathematica Policy Research presented “Shared Savings under the Comprehensive Care for Joint Replacement Model.” This research assessed whether health systems can achieve higher quality at lower cost, focusing on two main research questions:

1. Whether hospitals affiliated with health systems perform better than non-system hospitals in the first performance year of Medicare’s CJR alternative payment model and
2. Whether system-affiliated hospitals have better quality outcomes.

The outcome variables included in this study measure whether the hospital achieved any shared savings, the amount per episode (given savings), and quality scores based on publicly available CMS data.

Independent variables for this study included health system per the AHRQ Compendium and hospital linkage file as well as hospital covariates. Researchers sourced data for this analysis from CMS, the American Hospital Association’s annual survey, and the Healthcare Cost Report Information System. Workshop participants discussed how future research on the benefits and implications associated with participating in bundled payment program can build from the Coordinating Center comparison of performance levels between CJR and non-CJR hospitals.

### **III. Disseminating Research, Engaging Stakeholders, and Sustaining CHSP Data Cores**

Workshop participants discussed strategies for disseminating research findings, engaging stakeholders, and sustaining CHSP data cores past 2020.

#### **Disseminating CHSP Health Systems Research**

Workshop participants suggested ways to create interest in the research community and journal publications, such as pursuing a special issue focusing on research methods developed under CHSP or partnering with stakeholders to increase awareness of relevant CHSP research.

#### **Engaging With Health Systems**

Workshop participants also discussed forming a learning collaborative of health systems to share ongoing experiences and findings.

#### **Sustaining the Data Core**

Finally, workshop participants discussed strategies for sustaining the data cores beyond the 5-year CHSP Initiative and identifying costs and security requirements associated with maintaining an accessible dataset as challenges that merit additional consideration. The ideas that surfaced during this session will form the basis of ongoing discussions between AHRQ, the CoEs, and the Coordinating Center.

### **IV. Conclusion**

The third annual workshop of the CHSP Initiative included health care delivery system researchers from AHRQ, the CoEs, and the Coordinating Center, as well as other relevant public and private stakeholders. The workshop enabled participants to present on research methods and analyses performed in the past year related to comparing health system

performance. CHSP investigators shared approaches to their research, preliminary findings, and relative benefits and limitations associated with each methodology.

Workshop participants engaged in rich discussion, both providing feedback to presenters and gleaning insights they could apply to their own work. Participants also

brainstormed avenues for dissemination, ways to engage health systems with the CHSP Initiative, and options for preserving CHSP data into the future. This robust sharing of research progress by various teams advanced the CHSP Initiative's objective to understand how health care systems promote more evidence-based patient-centered care.

## Appendix

### Agenda for Third Annual Grantee Workshop

September 25, 2018 – 8:30 am–4:30 p.m. (ET)

AHRQ's offices in Rockville, Maryland

*Registration will begin at 7:30 am, with a networking breakfast beginning at 8:00 am*

#### **I. Welcome (AHRQ) (8:30 – 8:40)**

#### **II. Introduction (Mike Furukawa, AHRQ; Gene Rich, MPR) (8:40 – 9:00)**

#### **III. Research Session 1 (9:00 – 10:15)**

- a. Efficient matching of patients to hospitals (N-32), N. Beaulieu, NBER
- b. Are U.S. Healthcare systems providing evidence-based processes to achieve value-based patient care?, S. Shortell, Dartmouth
- c. Understanding Multi-Layered Health Systems: Secondary Data Gets You Only So Far, S. Ridgely, RAND
- d. Moderated Discussion/Q&A (Herb Wong, AHRQ)

#### **Break (10:15 – 10:30)**

#### **IV. Research Session 2 (10:30 – 11:45)**

- a. The Prevalence and Scope of Maternal and Pediatric Services in Healthcare Systems (N-9), A. Chien, NBER
- b. Where do patients get primary care? C. Colla, Dartmouth
- c. Physician compensation arrangements/financial incentives in health systems (R-9/10), R. Reid, RAND
- d. Moderated Discussion/Q&A (Zeynal Karaca, AHRQ)

#### **Networking lunch (11:45 – 1:00)**

## V. Research Session 3 (1:00-2:40)

- a. Can Health Systems Promote Integrated Cancer Care? (N-12), C. Nguyen, NBER
- b. Health Care Systems with Advanced Health Information Technology Capabilities are More Likely to Routinely Use Patient-Reported Outcome Measures, H. Rodriguez, Dartmouth
- c. Measuring Health System Overall Quality with Item Response Theory Models (R-7), A. Haviland, RAND
- d. Shared Savings under the Comprehensive Care for Joint Replacement Model, R. Machta, MPR
- e. Moderated Discussion/Q&A (Mike Furukawa, AHRQ)

## Break (2:40 – 3:00)

## VI. Session 4: Brainstorming on sustaining CHSP work-streams beyond 2020 (Facilitator: Linda Bergofsky, AHRQ) (3:00-4:00)

- Disseminating health systems research (Discussant: Steve Shortell, Berkeley)
  - » Creating interest in the research community and publishing CHSP manuscripts
    - › How can we get journals to publish CHSP findings?
    - › How can we get AcademyHealth to accept CHSP abstracts?
    - › Which stakeholders would potentially comprise the research community of interest?
- CoE plans to sustain their data cores (Discussant: Nancy Beaulieu, Harvard)
  - › How do you plan to maintain access to the data to support ongoing activities?
  - › How do you plan to sustain your data core?
  - › What will you need to sustain your data core?
- Engaging with systems (Discussant: Cheryl Damberg, RAND)
  - › Communicating with health systems and sharing ongoing experiences through a performance learning collaborative.
  - › Possible CHSP Workgroup as listening session for health system leaders.

## VII. Wrap Up and Next Steps (Mike Furukawa, AHRQ; Gene Rich, MPR) (4:00-4:30)

- Establish priorities and action items, resources, and leads



AHRQ Publication No. 19-0022  
January 2019