
Editorial

Improving Efficiency and Value in Health Care: Introduction

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The Agency for Healthcare Research and Quality (AHRQ) is pleased to sponsor the first theme issue for *Health Services Research (HSR)*, a new feature whereby excellent and ground-breaking health services research will be gathered around an important “theme” and published in a dedicated issue of the journal. The first theme chosen to introduce this feature is “Improving Efficiency and Value in Health Care,” a topic that presents puzzles for researchers and policy makers alike. In this issue, *HSR* aims to present some of the best research in this area in time to contribute to the national debate and the collective interest about health care that attends election years.

Our health care system is characterized by high and rising healthcare costs as well as gaps in quality, safety, equity, and access. Federal and state policy makers, private payers and systems leaders are seeking ways to reduce waste, increase the efficiency of healthcare delivery, and allocate resources in order to improve value in health care. Consumers also seek guidance about how to maximize the value of their own health care dollar, particularly since some payer innovations have increased consumers’ financial exposure. In this environment, AHRQ’s mission is to help set the concepts of efficiency and value on a firm foundation of empirical evidence and validation.

Much of the current dialogue on efficiency focuses on how to measure it – a topic AHRQ has recently addressed in an Evidence Review (McGlynn 2008). The goal in this theme issue, however, is to move beyond measurement to improvement—how do we reduce unnecessary cost and waste while at the same time maintaining or improving quality? We have selected seven state-of-the-art papers that report on how to *improve* efficiency and value.

We begin the theme issue with an article that takes a top-down approach by examining 21 common quality improvement programs (such as Six Sigma, 100K Lives Campaign, etc.) among 109 hospitals in Minnesota to see if there was a consistent predictor of success. In “Examining Quality Improvement

Programs: The Case of Minnesota Hospitals,” John Olson, James Belohlav, Lori Cook, and Julie Hays ask the question that any hospital administrator would ask when faced with a myriad of potential improvement programs from which to choose, “Where do we start?” To answer this, they first scored the 21 programs on a continuum representing the difficulty of implementing the program and then scored the 109 hospitals on their ability, i.e., how well they implemented the program they attempted. This scoring provides a quantifiable prediction of success. For example, if a hospital with a lower ability attempted to implement a very difficult program such as the Malcolm Baldrige Award program, its chance of success is < 5 percent. But, its chance of implementing an easier improvement, such as an employee suggestion system, would be 75 percent. The key to successful change is to help hospitals move *incrementally* along a *hierarchy* of improvement programs. Paradoxically, if a hospital attempts to implement a program that is too difficult for its ability level, it will invariably incur a higher level of inefficiency and waste.

While the first paper presented a hierarchy for successful implementation of a program, the second paper in our theme issue addresses how to detect why a program or system is failing. In “Front-line Staff Perspectives on Opportunities for Improving the Safety and Efficiency of Hospital Work Systems” by Anita Tucker, Sara Singer, Jennifer Hayes, and Alyson Falwell, an intervention called “Leveraging Front-Line Expertise” was designed and implemented in 20 hospitals to ascertain what front-line workers could really reveal about hospital patient safety system failures. Frontline workers reported that 36 percent of the failures were equipment/supply failures or facility failures. This finding is very important because these frontline-reported failures are not typically considered as important to examine in quality improvement programs. Thus, campaigns to monitor and track equipment failures and facility failures may be a fruitful next step for major improvements in safety and efficiency of systems in hospitals.

Before deciding what quality improvement program a hospital may successfully implement, hospital administrators and policy makers may first want to assess the maximum potential gains that could be achieved by

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reducing inefficiency. Is there a method whereby the level of inefficiency at hospitals can be quantified? In “Hospital Quality, Efficiency, and Input Slack Differentials,” Vivian Valdmanis, Michael Rosko, and Ryan Mutter present a method for measuring and quantifying inefficiency in 1,377 hospitals across 34 states, controlling for patient safety. They found that on average hospitals could increase outputs by 26 percent by eliminating inefficiency. About 3 percent of this inefficiency was due to the productivity loss associated with patient safety problems. But, even among high quality hospitals with low patient safety rates, there was still much inefficiency due principally to unused resources such as idle personnel.

This evidence about inefficient use of personnel at even the best hospitals raises a series of questions that requires us to look at inefficiency from a broader prospective extending beyond the hospital sector. Do good hospitals really have an unnecessary oversupply of personnel, or is their underutilization due to health plans not efficiently channeling patients to higher quality hospitals? Or do patients, in fact, not respond to insurance-based incentives or information about quality? In “Steering Patients to Safer Hospitals? The Effect of a Tiered Hospital Network on Hospital Admissions,” Dennis Scanlon, Richard Lindrooth, and Jon Christianson examined a large firm that implemented a tiered hospital benefit. The tiered benefit gave union workers financial incentives to choose hospitals that met the Leapfrog Group’s three patient safety “leaps.” Non-union workers were not given the same incentive. They found evidence that people were responding to the financial incentive to choose high quality hospitals for medical admissions, but not for surgical admissions. This result suggests that there may be differential success and therefore “efficiencies” by appropriate use of financial incentives for patients. For example, financial incentives for surgery may need to be large enough so that patients are willing to travel longer distances to a high quality hospital, while this may not be necessary for medical hospitalizations.

While not directly addressed in this study, “efficient” design of benefits and financial incentives for patients will need to consider other factors such as the vital role that physicians play in referring patients to surgeons, who then often determine the patient’s final choice of hospital.

The final three papers of this theme issue examine efficiency and incentives among physicians. In “Specialty and Full-Service Hospitals: A Comparative Cost Analysis,” Kathleen Carey, James Burgess, and Gary Young examined the growing trend toward specialty hospitals from 1998 to 2004. They found that surgical and orthopedic specialty hospitals were significantly less efficient than traditional full service hospitals. Overall, these

specialty hospitals had an inefficiency score of 47 percent compared with 27 percent for traditional hospitals. However, cardiac specialty hospitals were no different than traditional hospitals. Moreover, it did not appear that the growth trend toward specialty hospitals was encouraging greater efficiency in traditional hospitals, i.e., the presence of nearby competition from specialty hospitals did not explain efficiency in traditional hospitals.

Why many of these specialty hospitals are not efficient is not clear. Carey et al. surmise that it may be related to a trade-off in office versus hospital efficiencies. For example, particularly because many specialty hospitals are also physician-owned, efforts to be efficient may focus on setting operating room schedules for surgeons' convenience and workload, rather than on minimizing hospital inefficiencies in resource use. This raises the general question, how exactly do physicians respond to physician productivity incentives? In "Access Intervention in an Integrated, Prepaid Group Practice: Effects on Primary Care Physician Productivity," Douglas Conrad, Paul Fishman, David Grembowski, James Ralston, Robert Reid, Diane Martin, Eric Larson, and Melissa Anderson evaluated the impact of Group Health Cooperative's Access Initiative on physician productivity over an 8-year period. Three of the seven incentives to improve access directly addressed productivity: primary care redesign, linking physician compensation to productivity, and patient-physician secure messaging through a website. They found that the incentives increased the physician's panel size, i.e., increased the number of enrollees for whom the physician was responsible. Moreover, service intensity per visit increased while visits per FTE fell without reducing quality. Overall, costs per patient declined.

The final paper in this issue examined the potential for further productivity gains through the use of physician assistants. In "Impact of Physician Assistant Care on Office Visit Resource Use in the United States," Perri Morgan, Nilay Shah, Jay Kaufman, and Mark Albanese examined the recent increase in the use of physician assistants, i.e., from 20,000 in 1991 to over 68,000 in 2006. They found that patients whose care included physician assistants had 16 percent fewer office-based visits than patients cared for by physicians only. This efficiency gain was not offset by increased office visit resource use in other settings.

This theme issue provides an overview of some recent and innovative research focusing on efforts to understand, quantify and improve efficiency and value in health care. These articles shed light on many recent efforts in health care that require efficiency measures, ranging from internal quality improvement, pay-for-performance, and public reporting to the construction

of benefit designs that include tiered copayments for different providers. Through this set of papers we find that timing, organizations, and markets all matter to the likely success of interventions aimed at improving efficiency and value. Timing matters, because an organization that attempts to implement a major improvement in efficiency without first successfully implementing smaller steps may find itself worse off and far less efficient than before. Organizations matter: those that do not enlist the feedback of their frontline workers will likely overlook important measures of efficiency and may end up worse off from focusing on less important problems. Finally, markets matter. For example, incentives for hospitals that ignore the incentives that patients face in the health plan market and that ignore the clinical incentives that physicians face in the physician marketplace will not work. Thus, any design of efficiency improvements and value-based benefits must involve an integrated approach over time, across markets, and throughout the organization from top to bottom. We invite readers to read all seven of these papers since they discuss research gaps that still remain in this literature and give important new directions for future research into the impact of incentives on health care efficiency and value.

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