Growth of Research Centers Focused on Quality Improvement, Implementation Science, and Innovation

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Introduction

Over the past decade and a half, the rising cost of health care, the persistence of preventable adverse events, the variable successes of quality improvement initiatives, and the uneven progress in improving patient outcomes have led to a renewed focus on patient safety, quality improvement, value, and efficiency in health care delivery. These challenges were brought into sharp relief with the 2010 Affordable Care Act, which, in addition to addressing insurance and coverage, authorized and provided appropriations for a new institute and a new center: (1) the Patient-Centered Outcomes Research Institute, which is charged with funding patient-centered outcomes research to provide evidence-based improvements in key health outcomes, and (2) the Center for Medicare and Medicaid Innovation, which is tasked with developing and funding demonstration projects to improve the quality of patient care and reduce costs. The challenges in addressing the complexity of modern health care are noted in the Institute of Medicine report, Best Care at Lower Cost: The Path to Continuously Learning Health Care in America. The report’s authors call for concerted action to transition the current health care system to a continuously learning health care system. This system is defined as one that relies on an iterative process to generate and apply the best evidence for health care choices available to patients and care providers, drives discovery as a natural outgrowth of patient care, and ensures health care innovation, quality, safety, and value.

In academic medicine, there is a growing consensus that meeting these health care challenges will require an organizational structure that supports interdisciplinary research to improve health care and uses implementation science to ensure that effective strategies are adopted and ineffective strategies are not.

Although many institutions have successful, long-standing health services research and policy programs and departments, some have devoted more recent efforts to establishing centers geared specifically toward facilitating scholarship in quality, safety, value, and improvements in health care delivery.

In this brief, we report an initial tally of the growth of centers identified in AAMC-member medical schools and teaching hospitals between 2006 and 2015.

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2 Patient Protection and Affordable Care Act of 2010 (Public Law No. 111-148).
Methods

To identify the centers, we conducted an Internet search of AAMC-member medical schools and teaching hospitals webpages. The search query used the keywords “center” and “health innovation” or “quality improvement” or “implementation.” The medical schools and teaching hospitals searched were taken from the list posted on the AAMC website. The search of medical school websites was conducted manually. A program was written to conduct a batch search of AAMC-member teaching hospital websites. The search was performed during May 2015. The date of center establishment was identified from the center’s website or by a center representative. The initial findings indicated that the majority of centers were created after 2006, so that was the year selected as the cutoff for plotting the number of centers. To further confirm the type of centers, each center’s mission statement, as well as its areas of focus, was reviewed for the broad themes of implementation science, innovation in health care, and quality improvement.

Results

The search approach identified a steady growth in new centers from 10 in 2006 to a total of 48 in 2015, with 21 of those established in teaching hospitals and 27 in medical schools (Figure 1).

Figure 1. Innovation, Implementation, and Improvement Center Growth in the United States in Medical Schools and Teaching Hospitals

The themes of health care innovation, quality improvement, implementation, and collaboration were expressed across the three academic missions of clinical care delivery and practice, research, and education.

As shown in Figure 2, a steady growth in the number of centers accelerated in 2009. This finding contrasts the growth of the Clinical and Translational Research Awards (CTSAs), which, upon the initial funding in 2006, experienced a prompt surge and then reached a steady state of 62 centers in 2013.

**Figure 2. Comparison of Growth of CTSAs* and Innovation, Implementation, and Improvement Centers in the United States**

![Graph showing growth of CTSAs and Innovation, Implementation, and Improvement Centers](https://ctsacentral.org/consortium/institutions/)

*Source: [https://ctsacentral.org/consortium/institutions/](https://ctsacentral.org/consortium/institutions/).

CTSAs are located at 58 percent of the institutions identified through the search. Nineteen percent (n = 9) of the centers identified through the search are a component of or have a specific relationship with the institutions’ CTSAs, as indicated by these centers’ webpages. The map in Figure 3 shows that centers located in medical schools are distributed throughout the country, while those centers located in hospital or health system settings are situated mostly in the Northeast.
Discussion

This snapshot demonstrates that between 2006 and 2015, a significant growth of centers focused on innovation in health care, implementation science, and quality improvement. The centers developed in near-equal proportion in medical schools and teaching hospitals, which suggests the importance of supporting scholarship in the area of health care delivery and improvement. The centers also provide an environment in which medical students, residents, fellows, graduate students, and postdoctoral fellows can experience an integration of research and clinical care inculcating a culture of collaboration for team-based research, team-based learning, and team-based care.

The study was limited inasmuch as we restricted the search to AAMC-member medical schools and teaching hospitals. Furthermore, institutions may have other structures to advance scholarship in quality improvement and innovations, such as institutes, programs, or departments. Therefore, it is possible that the growth of centers identified in this analysis underestimates the total number of centers.

The growth of the centers aligns with national calls for providing evidence-based solutions to address the delivery of high-quality health care, the persistence of preventable adverse events, the variable success of quality improvement initiatives, and the uneven progress in improving patient outcomes. Evaluating the impact of the scholarship coming out of such centers on improved outcomes will be key in determining whether the organizational infrastructure has been successful. Ultimately, the value of the centers will be measured by demonstrations of evidence-based improvements in care delivery processes, patient outcomes, enhanced population management, and reduced costs.
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