

## VIEWPOINT

## Assessing Progress in Health Care Quality Through the Lens of COVID-19

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**Viewpoint**  
pages 2479, 2481, 2485 and Editorial page 2489

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The 2001 report *Crossing the Quality Chasm* from the Institute of Medicine (now the National Academy of Medicine [NAM]) underscored the urgency of fundamentally redesigning health care to bring the benefits of medical science and technology to all US residents. The *Chasm* report called on all participants in the health care system to unite around achieving 6 aims—care should be safe, effective, patient-centered, timely, efficient, and equitable. The report also described the importance of 3 levels of care: *microsystems* (eg, care teams) that are patient-centered, knowledge-based, and system-minded; *health care delivery organizations* capable of safely providing evidence-based care; and an *environment of care* that supports application of new clinical knowledge, enables use of information technology, aligns payment policies with aims, and ensures a competent workforce.

The 2 primary approaches to assessing progress over the last 2 decades have included measures focused on the 6 aims and assessments of changes at the microsystem, health care organization, and environment levels. For example, AHRQ has tracked annual performance since 2000 on 250 measures, and the results are mixed.<sup>1</sup> Some areas have shown improvement, for example, patient-centeredness (13 of 19 measures improved) and safety (13 of 21 measures improved), while in other areas, such as affordability, little or no progress has been made. Numerous analyses have documented alignment of various aspects of the environment of care with the aims, most notably, the adoption of value-based payment programs, such as lessons learned from Center for Medicare & Medicaid Innovation payment and delivery models.<sup>2</sup> But the percentage of care that is value-based remains quite low.

Although both approaches provide useful information on various aspects of performance, a third approach also can provide insights regarding system performance as a whole. Engineers have long used stress testing to assess system performance under pressure and to better understand interactions between parts. The US health care system is currently undergoing an enormous stress test in responding to the coronavirus disease 2019 (COVID-19) pandemic. This Viewpoint provides initial observations about system performance during the pandemic with emphasis on system cohesion (ie, how well the personal and public health system components worked together to address a national emergency), and 2 of the 3 levels of health care described in the *Chasm* report, namely, health care organizational capabilities and the environment of care.

**System Cohesion.** COVID-19 has exposed the vulnerabilities of the nation's public health infrastructure but also revealed a failure to delineate the respective roles of the health care and public health systems, including shared responsibilities for emergency preparedness, planning, and implementation. Many regions struggled to have adequate

supplies of key equipment (such as ventilators) available in health care settings and state and federal stockpiles, and in general, supply was insufficient for what was needed.

In some geographic areas with competitive markets, the many parts of the health care system failed to function as a single system. As described by one governor, the health care system is "balkanized," with private and public hospitals and rural and urban hospitals that function as fiefdoms, whereas mitigating the morbidity and mortality from COVID-19 requires a "totally different mindset and organizational transformation."<sup>3</sup>

**Organizational Capabilities.** The *Chasm* report identified evolutionary stages that organizations would likely experience to achieve the NAM committee's vision of a 21st-century health care system. Stage 1 is characterized by a fragmented delivery system, broad scope of practice for physicians, and the near absence of information technology. Stage 2 is characterized by well-defined referral networks, loosely structured teams, and mostly paper-based health data. Stage 3 has more characteristics of a patient-centered, integrated system; team practice is common, but roles are constrained by professional, legal, and financial structures; and electronic health records are widespread, but applications are impeded by lack of interconnectivity and poor workflow integration. In Stage 4, there is a comprehensive delivery system capable of deploying resources and coordinating services across settings; leadership and skill development for multidisciplinary teams; and a sophisticated information technology platform to support population health management and care delivery.

The committee perceived that much of the health sector was operating at stage 2 or 3 at the time of the study. Over the last 20 years, although no formal analysis has been done, it appears that the distribution of health systems has shifted. Given the robust pace of health care consolidation and the extraordinary investments in information technology, stage 1 delivery organizations are nearly nonexistent and there are likely only a small fraction at stage 2. COVID-19 revealed that most US hospitals successfully addressed shortages in bed capacity and staffing by demonstrating capabilities consistent with stage 3, including team-based practice and some degree of integration and coordination across hospital and ambulatory sites. COVID-19 also revealed numerous stage 4 organizations.

Stage 4 comprehensive, integrated systems had clear advantages in responding to COVID-19. For example, Northwell Health redeployed staff from its large ambulatory network to its 23 hospital settings, converted bilevel positive airway pressure (BiPAP) machines, typically used to treat sleep apnea, into ventilators, and used its central transport system to manage hospital capacity by moving as many as 70 patients a day during the crisis.<sup>4</sup> Mount Sinai Health System, Marshfield Clinic, and other systems increased hospital

capacity by ramping up deployment of the “hospital at home” care model, which offers patients who typically require hospitalization the opportunity to receive hospital-level care via a suite of home-based services accompanied by telehealth and remote monitoring services.<sup>5</sup>

Clinicians demonstrated extraordinary teamwork, enabled in part by the actions of many states and the Centers for Medicare and Medicaid Services (CMS) to allow care clinicians to practice across state lines and to work at the highest level they are trained for without being hamstrung by state and federal rules. Yet, the inability of health care organizations to provide safe working conditions for clinicians after 20 years of investment in improving patient safety is inconsistent with the notion that safety is an overarching priority.

COVID-19 also illuminated the enormous untapped potential of some aspects of information technology. Enabled by regulatory and payment changes issued by CMS, expanded use of telehealth became ubiquitous. But health systems with experience in deploying virtual care, such as Kaiser Permanente, Veterans Health Affairs, and Cleveland Clinic, were best positioned to rapidly expand use of telehealth and remote clinical monitoring.<sup>6</sup> In contrast, unlike other countries, the US ability to test, track, trace, and quarantine, which requires integration of laboratory results with public health, health system data, and privacy data, was largely not possible.

**Environment of Care.** The COVID-19 response highlighted how profoundly the lack of a coherent national policy framework for payment and regulation has impeded the evolution of high-performing health care systems. As health systems struggled to respond to COVID-19, their efforts were limited by layers of payment and regulatory requirements that impeded flexibility and the movement of resources and care across sites. Since March 13, 2020, when a national health emergency was declared, CMS has waived hundreds of requirements that affected virtually all sites and clinicians including conditions of participation, performance reporting, and payment.<sup>7</sup> Many state Medicaid programs and private payers have taken similar actions.

Although the temporary removal of such a large swath of regulations might reasonably be viewed as a successful response to the crisis, it also revealed the complexity of US regulatory and payment programs and surfaced examples of policies that have stifled desirable innovations and impeded efforts to expand access and reduce health care costs. Recognizing this, CMS is now considering making some of the temporary flexibilities granted during the COVID-19 crisis permanent.

The pandemic also amplified the challenges of inadequate insurance. Public and private insurers have taken action to waive co-

payments for COVID-19–related care, state Medicaid agencies waived impediments to enrollment (eg, work requirements), and as unprecedented numbers of individuals lost employment-based insurance, the administration issued regulations that allowed health systems to use funds authorized under the CARES Act of 2020 to cover uncompensated care. The actions taken by insurers in response to COVID-19 provided relief for many, but not all, as evidenced by accounts of patients confronting sizable COVID-19–related expenditures.<sup>8</sup> Lack of health insurance and concerns about cost consequences may have led some to delay seeking care when experiencing possible COVID-19 symptoms.<sup>9</sup> But even more important, inadequate insurance is a systemic issue that affects many types of patients with serious ramifications in terms of health outcomes and cost burden, and a problem that requires a permanent solution.

**Conclusions.** Viewing the health care system through the lens of the COVID-19 pandemic indicates that major shortcomings and challenges must still be addressed before the health care sector will have crossed the quality chasm. Of the 6 aims, COVID-19 raises particular concerns about safety for both patients and clinicians; timeliness especially for patients without COVID-19 who may have delayed necessary care; and equity due to the disproportionate burden of COVID-19 on minority and lower-income populations.

COVID-19 illuminated the need for a closer coupling of the health care and public health sectors. The US would benefit from a priori agreements among all parties, including federal and state governments and health care delivery systems, on emergency preparedness planning and implementation. The same can likely be said for responding to other public health challenges, such as obesity and opioid addiction.

For the future, rather than simply eliminating emergency flexibilities and returning to the prepandemic era, public and private payers could incentivize development of stage 4 health systems closely aligned with public health needs. Steps should be taken to permanently overcome professional, payment, and regulatory barriers that have stymied adoption of telehealth and impeded the development of high-performing teams.

It is also time to select a limited number of “best-in-class” payment programs that encourage both delivery system integration and population health management. Health care organizations that attain stage 4 should be rewarded with global payment programs accompanied by oversight that relies on “whole system performance measures” to provide maximum flexibility for ongoing innovation in care redesign.

#### ARTICLE INFORMATION

**Conflict of Interest Disclosures:** None reported.

**Additional Information:** Dr Corrigan directed the IOM projects that produced the reports *To Err Is Human: Building a Safer Health System* and *Crossing the Quality Chasm*.

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