Closing the Health Care Gap in Communities: A Safety Net System Approach

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Abstract

The goal of U.S. health care should be good health for every American. This daunting goal will require closing the health care gap in communities with a particular focus on the most vulnerable populations and the safety net institutions that disproportionately serve these communities. This Commentary describes Denver Health's (DH's) two-pronged approach to achieving this goal: (1) creating an integrated system that focuses on the needs of vulnerable populations, and (2) creating an approach for financial viability, quality of care, and employee engagement. The implementation and outcomes of this approach at DH are described to provide a replicable model. An integrated delivery system serving vulnerable populations should go beyond the traditional components found in most integrated health systems and include components such as mental health services, school-based clinics, and correctional health care, which address the unique and important needs of, and points of access for, vulnerable populations. In addition, the demands that a safety net system experiences from an open-door policy on access and revenue require a disciplined approach to cost, quality of care, and employee engagement. For this, DH chose Lean, which focuses on reducing waste to respect the patients and employees within its health system, as well as all citizens. DH's Lean effort produced almost $195 million of financial benefit, impressive clinical outcomes, and high employee engagement. If this two-pronged approach were widely adopted, health systems across the United States would improve their chances of giving better care at costs they can afford for every person in society.

Editor's Note: This New Conversations contribution is part of the journal's ongoing conversation on the present and future impacts of current health care reform efforts on medical education, health care delivery, and research at academic health centers, and the effects such reforms might have on the overall health of communities.

Health care in the United States has received two related challenges recently, one from Dr. Don Berwick and one from the Robert Wood Johnson Foundation (RWJF). Dr. Berwick asks us to provide "Care better than we've ever seen, health better than we've ever known, cost we can all afford … for every patient, every time."[1] Similarly, RWJF has asked the broader community to aim for "A Culture of Health [that] enables all our diverse society to lead healthier lives now and for generations to come."[2] These aspirations appear quite distant from our current situation.

Perhaps the most daunting challenge is that of health for every person. There are huge gaps in health and health care across socioeconomic and racial/ethnic groups. The variability between states and even between neighboring counties is such that RWJF's county health rankings[3] have led people to raise the question, "Does your ZIP code matter more than your genome?"

Meeting the challenge of health and health care for everyone is primarily an issue of improving the well-being of the most vulnerable. While this is a task that traditionally rests most squarely on the health care safety net in the United States, the Affordable Care Act's (ACA's) major Medicaid expansion and the availability of marketplace insurance plans with premium tax credits not only increase the number of Americans with health insurance coverage but also broaden the challenge to more health care institutions.

Denver Health's Integrated System

So, how can health care institutions prepare for this challenge? As with many improvements in U.S. health care, we often look for examples of innovation that others can replicate. Denver Health (DH) has been such an example. DH's approach for closing the health care gap in its community has had two paths: (1) creating an integrated system of care for Denver's population, and (2) creating a robust approach for quality, cost reduction, and employee engagement. DH's integrated system is illustrated in Figure 1. An integrated system of care for the most vulnerable requires both different components from those that often characterize our current definition of an integrated system (i.e., simply joining multiple hospitals and ambulatory care centers) and different aspects from the traditional hospital and ambulatory components. An integrated system constructed to close the gap in the health of the community must contain components that address the clinical care and access needs of the community's vulnerable population. The ACA's mandated community needs assessment for all not-for-profit hospitals offers a mechanism for identifying needed health care components.[4]

Vulnerable populations often experience the burdens of violence and mental

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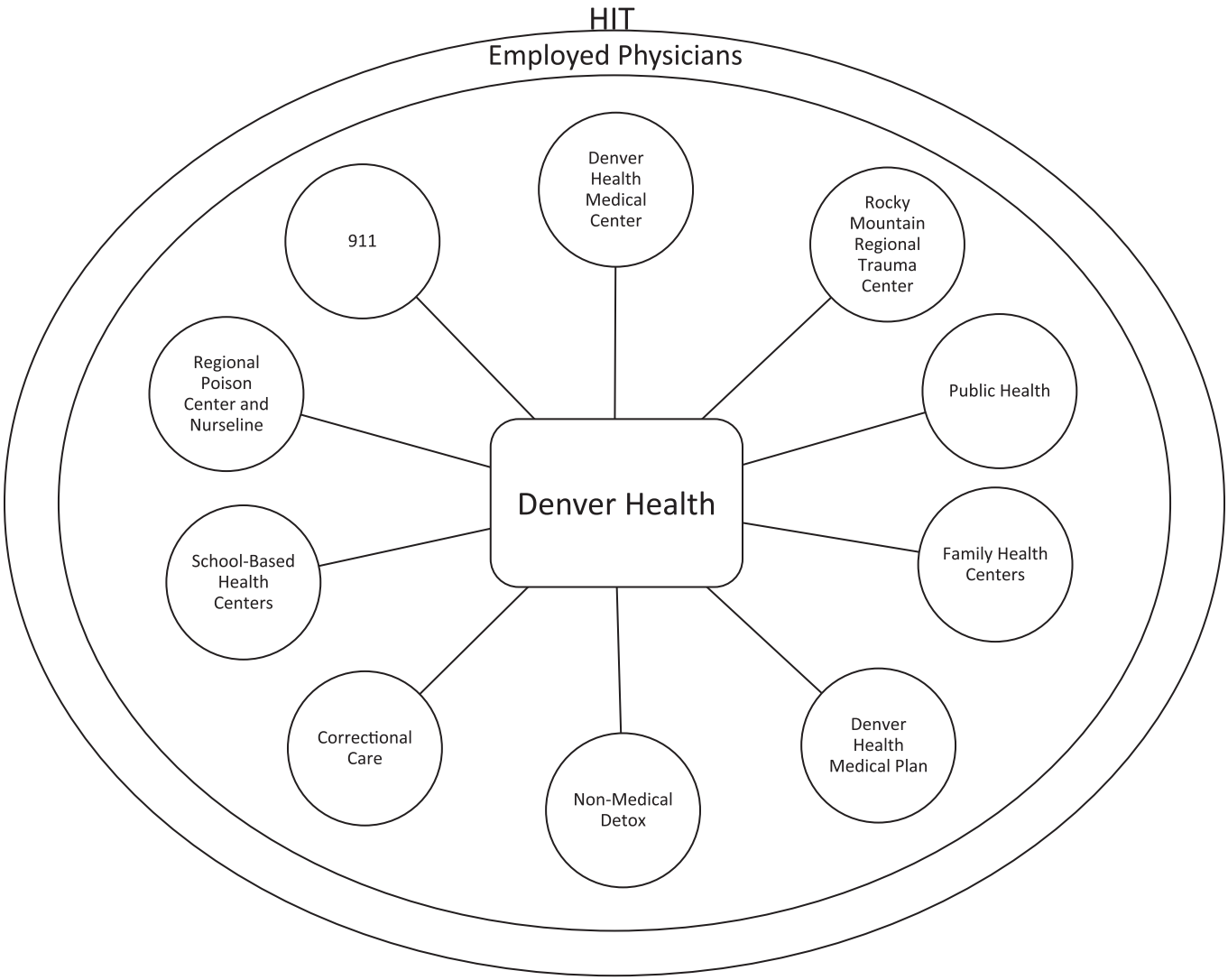

Figure 1 A schematic representation of the components of the Denver Health integrated health care system. The physician staff are employed physicians. The clinical system has been linked by a single information system.
Abbreviation: HIT indicates health information technology.

health issues. Therefore, DH includes a Level I trauma center that provides high-quality care for the victims of violence as well as numerous resources for mental health care, including a locked psychiatric emergency department, inpatient adult and adolescent psychiatry units, and a nonmedical detoxification unit to address these needs. The nine ambulatory care centers within DH are federally qualified health centers located in underserved neighborhoods, providing ready access to primary care. The 16 DH school-based clinics, located in high schools and middle schools, are important points of entry for vulnerable children, many of whom are Denver Public School students. DH's integrated call center includes a round-the-clock nurse advice line that provides some prescriptions and is an important point of entry for vulnerable populations challenged with transportation and co-payments. Correctional care offers a point of care for the many behavioral health patients who unfortunately are in the criminal justice system. DH's inclusion of public health links population health and personal health. The wholly owned DH health maintenance organization (HMO) links the financial and delivery systems, particularly for those insured by Medicaid and those who have marketplace insurance with subsidized premiums, providing seamless care as patients move between being uninsured and having coverage through public insurance programs. The HMO is critical for both the care of the patients and the health of the institution. The 911 paramedic system links the emergency needs of the entire population to the system.

The DH system is staffed by employed physicians who all have academic appointments at the University of Colorado School of Medicine, ensuring that the most vulnerable patients have access to high-quality physicians. The entire system has been linked by a single electronic health record in which each individual has a single patient identifier, enabling access to information at the point of care, registries for clinical care, and sophisticated predictive analytics.

List 1 shows demographic information for DH patients.[5] In the two decades

List 1
Denver Health Patient Demographics According to Internal Data, 2012[a]

- 183,000 individual patients (almost one-third of Denver County's population)
- 70% of patients are ethnic minorities
- 30% of patients are non–English speakers
- 50% of patients are below 250% of the Federal Poverty Level
- 38% of patients are uninsured[a]

[a]Prior to Medicaid expansion through the Affordable Care Act.

prior to the implementation of the ACA and expansion of Medicaid in Colorado, 38% of DH patients were uninsured, and the price of the care provided to them rose from $100 million in 1991 to almost $450 million in 2011 at the height of the recession. This amount of unsponsored care reflects the open access policy, regardless of ability to pay, that characterizes safety net institutions. During this period DH remained "in the black" despite the fact that the city's contribution of approximately $27 million to DH's budget remained unchanged.

A critical component of closing the health care gap in a community is to employ members of the communities who are being served. This not only provides a sense of comfort and trust to the patients but also, in part, addresses the issue of poverty that clearly influences the community's health. In 2011, 41% of DH employees were from minority communities, representing nearly $88 million in support of the minority workforce. One hundred eight of the 357 physicians were Spanish speaking, reflecting the predominant patient language.

Implementing an Approach to Financial Stability, Quality of Care, and Employee Engagement

DH's integrated system was foundational and essential in closing the health care gap, but it was not sufficient to deliver on the goal. It was necessary to create a disciplined and structured approach to financial stability, high quality of care, and employee engagement. For this DH chose Lean,[5] an approach that reflects a noble philosophy built on the twin pillars of respect for people and continuous improvement, and a robust tool set whose simplicity democratizes problem solving. Lean focuses on reducing waste from the customer perspective. Unlike cost cutting which can be directed by consultants using benchmarks, Lean tightly links waste reduction to respect for people, seeing waste as disrespectful to both humanity in general and workers in particular. DH articulated that waste is also disrespectful to patients who are asked to endure unneeded and even harmful processes, and to taxpayers who are supporting a wasteful system. The components of the DH Lean journey and its outcomes are described in detail in *The Lean Prescription: Powerful Medicine for Our Ailing Healthcare System*.[5]

DH's Lean implementation had two arms: a cadre of Lean Black Belts (individuals who are clinical and administrative leaders trained in Lean by DH) and value-stream-focused rapid improvement events (RIEs) (weeklong structured events to reduce waste in an area for focused improvement). Over the course of several years, everyone in a leadership role (middle managers and above, including the physician directors and nursing leaders) was trained in Lean at DH and was expected to use Lean every day to remove at a minimum $30,000 of waste each year.[5] By three years, the Black Belts exceeded this target, ultimately achieving an average of $110,000 savings per year.[5] DH focused on 12 areas, or value streams, which drove the system metrics. These value streams ranged from back office functions such as revenue cycle, human resources, managed care, and supply chain, to clinical value streams such as the paramedics, the emergency department, perioperative services, community clinics, and obstetrics–gynecology services. The total financial benefit realized from this Lean effort from 2006 through 2012 was almost $195 million.[5] Reflecting the increasing expertise and breadth of engagement over time, $50 million of this was achieved in 2012 with a total operating budget of approximately $738 million.

The large financial benefit had a remarkable effect on employee satisfaction and quality of care. The employees learned to see and eliminate waste using the Lean tools in RIEs. These are four-day structured events focused on a single process within a value stream, such as surgical scheduling in the perioperative value stream. RIEs differ radically from the committee approach to problem solving. First, they are only four days long. They do not have every stakeholder at the table, and the team is not composed of only organizational leaders; they are 8 to 10 people, including frontline staff. The process is mapped, and the waste is identified and removed through the development of a new process. There is no approval of the new process as it is in place by the end of the RIE. DH RIEs had only three rules: (1) The new process could require no new resources, (2) the new process had to have at least a $50,000 financial benefit, and (3) the new process could not be illegal—meaning that a regulation which might seem wasteful could not be eliminated. Over 2,000 employees were involved in RIEs. In the 2012 employee survey with an 85% response rate, 69% of employees said they saw how Lean drove the right process at DH, and 83% said they understood the Lean philosophy and how it reduced waste at DH. These results are a strong endorsement of the empowerment of Lean.[5]

Wasteful processes have a negative effect on quality, and, conversely, removing waste improves both the process quality and patient outcomes. Process quality improvements at DH ranged from higher percentages of clean claims in revenue cycle, to faster ambulance turnaround times, to more timely patient discharges for mothers and babies in obstetrics.[5] It also improves patient outcomes across all domains of care from prevention, to management of chronic disease, to reduction of complications such as lower incidence of postoperative deep venous thrombosis.[5] Thus, Lean is one of the best approaches for achieving excellence in quality of care, cost reduction, and employee engagement.

Conclusion

The ACA's expansion of insurance coverage offers a new opportunity to begin to close the health care gap in communities. However, coverage alone will not be sufficient to face this challenge. As DH's experience has demonstrated, health care institutions must turn coverage into access, in part by broadening the components of the traditional health care system to include more points of entry, such as

school-based clinics and a robust nurse advice line. Moreover, to accommodate expanded access, health care systems should consider improving operational efficiency as DH did, with approaches such as Lean. Unlike more traditional expansion approaches of simply adding people and facilities, this approach may not only expand access but also reduce cost and improve quality of care.

Closing the health care gap in communities across the United States will require integrated systems that span the continuum of care needed by vulnerable populations; allow open access to the system for all vulnerable patients; hire employees who reflect the communities being served; and have a disciplined and structured approach to quality, cost, and employee engagement. If we would embrace these components, we would improve our chances of giving better care than we have ever seen, health better than we have ever known, and at costs we can afford—for every person, every time, in our diverse society.

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