

***Redefining Health Care Delivery —
Improvement, Innovation, and Value***

A collection of original content from NEJM Catalyst





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Leading the Transformation of Health Care Delivery — The Launch of NEJM Catalyst

Article · December 9, 2015

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Health care delivery is in a period of historic transition. The pressure for major improvements in quality and efficiency exists everywhere — and thus is not driven by the Affordable Care Act alone. The real driver is the medical progress of recent decades, which has dramatically enhanced what medicine can do but has also increased its potential for creating waste, disappointing quality, and chaos for patients. Even if costs were not an issue, the need to reorganize health care would be compelling. Given economic realities, that need is an imperative.

To support the decision makers and clinical leaders in our health care institutions during this time of change, the NEJM Group, which also includes the *Journal*, has launched a new resource, NEJM Catalyst. NEJM Catalyst will use a range of formats to provide these leaders with information that can help them redesign patient care, change the structure of their institutions, contemplate new relationships with outside organizations, and reconsider the ways in which incentives are being used. In short, NEJM Catalyst expects to improve the management and strategy of health care — offering a trusted source of needed information just as the *Journal* offers a

trusted source of information on the art and of science of medicine.

NEJM Catalyst grows out of the knowledge that we cannot solve our cost and quality challenges simply by asking the good, hardworking people in health care to work even harder or become even better. Health care organizations have to create social capital — that is, improve the ways in which they work together and thus enable organizations to accomplish goals that would otherwise be out of reach. State-of-the-science medicine must be a team activity, and the teams must work together well and efficiently.

We believe that social capital is likely to be even more important than financial capital in the era ahead. After all, one can go to the bank to borrow money, but there is nowhere one can go to borrow trust, teamwork, reliability, and the desire to innovate and improve.

NEJM Catalyst will help health care organizations accumulate social capital — providing valuable insights on why changes are imperative, what kinds of innovations are proving effective, and how organizations are implementing change. We will use case studies, live and webcast meetings,

videos and podcasts of talks and discussions by thought leaders, and other methods to provide insight into the toughest problems health care organizations face today. Leaders will be able to learn firsthand from their peers what works and what doesn't.

We are grouping articles and other media around four overlapping themes that range from the social context of health care to the front lines of care delivery. The “New Marketplace” theme focuses on health policy and markets, including topics such as the impact of payer and provider consolidation, value-based payment, and the role of competition and consumer choice in driving higher-value health care. Led by Leemore Dafny, an economist and antitrust expert at the Kellogg School of Management at Northwestern University, the New Marketplace has already held its first major webcast meeting, portions of which can be viewed at the NEJM Catalyst website (catalyst.nejm.org).

The “Care Redesign” theme focuses on how to create and sustain the teamwork needed to provide high-value care, as well as the practical implications of organizing care to enhance health rather than simply provide sick care. Led by Amy Compton-Phillips, chief clinical officer at Providence Health Services, this theme has also already organized its first major meeting, covering topics such as team care for 21st-century medicine, the addressing of social needs in routine care, and bundled payments for chronic disease. Portions of that meeting are also viewable at catalyst.nejm.org.

In February, we will launch the third theme, “Patient Engagement: Behavioral Strategies for Better Health.” Led by Kevin Volpp, a physician and behavioral economist from the University of Pennsylvania, this theme will focus on what is known about the use of incentives (financial and

nonfinancial) to engage patients in improving their own health. A free webcast meeting will be held on February 25, 2016; information on how to register will be available shortly at catalyst.nejm.org.

The fourth theme will be “Leadership,” led by Stephen Swensen, medical director for leadership and organization development at the Mayo Clinic College of Medicine. This theme will focus on the strategies and tools for engaging clinicians in enhancing the value of care and will be launched in late spring 2016.

The NEJM Catalyst Insights Council provides another avenue to draw on the expertise of clinicians, clinician leaders, and health care executives from across the country. The NEJM Catalyst Insights Council will select and regularly survey qualified executives, clinician leaders, and clinicians to contribute their perspectives and practical guidance on trends and issues in health care today. Survey results will be summarized and interpreted by NEJM Catalyst contributors and will be available at catalyst.nejm.org.

Like much in health care delivery today, NEJM Catalyst represents a new type of work, aimed at problems that are new to our times. We don't pretend to have a complete understanding of the best ways to accomplish this work, but we believe that bringing recognized experts together will give us the building blocks. We look forward to your input, and we hope that NEJM Catalyst will play a valuable role in helping the health care community create a higher-value health care system.

Disclosure forms provided by the authors are available with the full text of this article at NEJM.org.

From Press Ganey, Wakefield, and Harvard Medical School, Boston — both in Massachusetts (T.H.L.).



How the Freestanding Emergency Department Boom Can Help Patients

Article · February 18, 2016

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One of the fastest-growing trends in health care is not happening on a hospital campus or a smartphone, but at your neighborhood shopping center, next door to Starbucks.

Freestanding emergency departments (FSEDs) — EDs not attached to a hospital — first surfaced during the 1970s. Their purpose was to provide emergency services to rural areas that could not financially sustain a hospital. Until recently, the idea of an FSED in suburbia was almost inconceivable. But FSEDs are now proliferating, thanks to cheaper, faster innovations in advanced imaging and testing; an almost insatiable demand for immediate, 24/7 access to care; and, of course, the potential for profit. The growth of FSEDs has been so fast in some states — more than tenfold within 5 years in Texas (Colorado is catching up) — that it's not uncommon to find two FSEDs within sight of each other.

Nationally, 323 hospitals operate 387 FSEDs, a 76% increase from 2008 to 2015. The majority are in Texas, Colorado, and Arizona — states that do not require a license-seeking FSED to meet “determination of need” regulations. Such regulations aim to prevent service redundancy and ensure that other local care providers will not suffer financially from competition.

Another 172 FSEDs are owned independently, by 17 for-profit entities. These FSEDs (90% located in Texas) are not permitted to participate in Medicare, Medicaid, and TRICARE because they are not “outpatient departments of an acute care hospital” and, therefore, not subject to relevant federal regulations. Many independent FSED companies are affiliating with hospital systems or building their own hospitals in order to meet federal requirements, accept ambulances, and care for all patients regardless of their ability to pay.

How Freestanding EDs Work

FSEDs are not retail medical clinics or urgent care centers.

Retail providers perform some very basic testing (e.g., blood pressure, blood sugar, strep throat), but they usually offer no radiology services and are staffed by advanced practice providers (APPs), such as nurse practitioners or physician assistants. They are also strategically located in pharmacies or stores where patients are likely to purchase products that the clinics recommended. Urgent care centers (UCCs) have capabilities that vary widely by town and by state, ranging from those that offer advanced testing and therapeutics and are staffed by various physician specialties to those that have almost no testing capabilities and are staffed by APPs. Neither retail clinics nor UCCs are typically open 24/7, as an FSED is.

“Advocates highlight that FSEDs boast little or no wait times, convenient locations, and very high patient-satisfaction scores. ... But with booming growth comes the legitimate concern that FSEDs could exploit the health care marketplace.”

Like a hospital-based ED, an FSED provides, at minimum, 24/7 access to an emergency physician, an emergency nurse, laboratory and radiology technicians, moderate-complexity blood testing (much more than BP, blood sugar, and strep testing), and advanced imaging such as computed tomography and ultrasound (in addition to X-ray). And FSEDs can care for most emergent illnesses, including heart attack, stroke, and minor trauma.

But unlike hospital-based FSEDs, which receive 10% to 40% of their patients by ambulance, more than 95% of FSED patients are walk-ins, and very few require hospital admission (<5%, vs. 15–35% for hospital-based EDs). It is a rare FSED that can observe a patient overnight; most transfer patients to a

full-service hospital for any emergent subspecialty need, an operation, or hospitalization (more on that later).

The Current Debate

Like most innovations, FSEDs have supporters and detractors. Advocates highlight that FSEDs boast little or no wait times, convenient locations, and very high patient-satisfaction scores. Studies show that FSEDs can achieve hospital-level quality of care, even for the most serious, time-critical conditions, such as heart attack and stroke.

But with booming growth comes the legitimate concern that FSEDs could exploit the health care marketplace. After all, FSEDs can charge the same fees with a fraction of the overhead costs required to run a full-service hospital. Low overhead plus high fees equal big opportunity for profit. And for the FSEDs operated by hospitals, it's an opportunity to maintain quality and continuity of care across all sites as they keep the patient in their network.

Some argue that charging hospital-type fees for a small, freestanding facility is unfair — fees that are invisible to people with traditional insurance but downright startling to those who have high-deductible plans or pay out of pocket. (These fees are similar to those charged by any ED, but somehow they have generated much more disquiet.) Detractors also contend that FSEDs' convenience and efficiency may steer patients away from lower-cost primary care (even for minor conditions), thereby further escalating costs and fragmenting the care continuum. In addition, some say that UCCs could provide many of the services offered by FSEDs and that the often prominent “emergency” signage on FSEDs may be insufficient to visually distinguish them from UCCs for prospective patients.

Arguments on both sides have merit. But given that existing FSEDs offer high-quality services that patients want, policy makers and other health care leaders should consider the overall value that FSEDs could bring, before dismissing them as transient pots of gold in a dysfunctional marketplace. Here are four possible sources of value from FSEDs that, if cultivated responsibly, would disrupt health care delivery in a way that better serves patients.

- 1. Pioneer new pricing and payment models.** In most EDs, freestanding or hospital-based, patients are charged emergency-level facility and professional fees whether they present with a sore throat or a stroke. In Minnesota, AllinaHealth's freestanding WestHealth facility prices minor and emergency conditions separately, so that patients with a sore throat don't get charged a facility fee at all. That's not as ideal as first seeing a PCP for a sore throat, but if such patients end up seeking emergency care, at least they avoid the unnecessary fees.

By taking advantage of their lower overhead costs, FSEDs are well positioned to pioneer pricing and payment models that will help them deliver high-quality care while remaining profitable, growing their market share, and saving both patients and payers money. And when they are part of a larger health care system, FSEDs ensure that their patients stay within the care continuum.

- 2. Become a gateway to targeted care.** Within the fragmented health care system, FSEDs can efficiently connect patients with needed care closer to where they live. In hospital-based EDs, roughly 75–85% of patients are discharged home. For the patients who do require hospital care, FSEDs can get them to the right hospital for their needs, rather than whichever one is closest to home.

Kaiser Permanente has embraced an FSED-like model in the mid-Atlantic region with its Clinical Decision Units, where patients are encouraged to visit first and, if required, are transferred to a hospital whose expertise matches their specific needs, such as stroke care, cancer care, or simply observation. The result: They get services where and when they need them.

- 3. Offer an alternative to hospitalization.** Hospital admissions make up a third of all U.S. health spending. At least 10% of hospital admissions are for patients with conditions, such as pneumonia, that require care and observation but don't require a hospital admission with its full array of services, such as in-house specialists or operating rooms.

To serve such patients, University of Colorado Health has partnered with Adeptus Health, a publicly traded, for-profit operator of FSEDs. Together, they have integrated FSEDs and, soon, “micro-hospitals” into the UC Health System. The micro-hospitals will offer patients initial emergency care, observation, and short-stay admissions in a lower-cost environment close to home, while still being fully connected to the larger system of care with the same electronic medical record. And all of the FSEDs and micro-hospitals are equipped with telemedicine services to offer consultations with hospital-based specialty physicians, without the time and costs of transportation to the hospital.

- 4. Partner with primary and specialty care providers.** The ED is often seen as the hospital's front door. FSEDs could reposition the ED as the “porch” to the medical home — a 24-hour extension of the outpatient clinic rather than a revolving door to the inpatient ward. FSEDs can provide hospital-level services in outpatient, even home-based, settings.

Consider the example of ReadyMed Plus, a unique facility — essentially, an ultra-UCC, similar to an FSED — in Worcester, Massachusetts (a state that does not allow FSEDs). ReadyMed Plus partners with local specialists, including oncologists, and the local cancer center. It recently began offering appointments for intravenous medication infusions, under the direction of the referring doctors, that would typically be administered at a hospital-based infusion center. By partnering with primary and specialty care providers in creative ways like this, FSEDs could strengthen their ability to safely care for patients closer to home and without admitting them to the hospital.

As the U.S. strives for more-efficient, lower-cost, higher-quality health care, we need innovators that are willing to experiment with new payment models, delivery systems, and care processes. Hospitals, with their thousands of employees, entrenched cultures, and high fixed costs, might be the least nimble players in all of health care. Let's not close the door on an innovative, potentially disruptive model like freestanding EDs. Instead, let's recognize what they do well — timely, high-quality care, close to home — and figure out how they can complement, rather than compete with, the overall care-delivery system.

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Caring for Older Adults in a Value-Based Model

Case Study · March 2, 2016

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Oak Street Health, Chicago, Illinois

Based in Chicago, Oak Street Health provides value-based primary care exclusively to older adults in underserved urban neighborhoods, driving industry-leading patient satisfaction scores, quality metrics, and a reduction in hospitalizations.

KEY TAKEAWAYS

- 1 Focusing exclusively on one population — for us, older adults, who are typically low-income and living in underserved, urban neighborhoods — allows care teams to truly “specialize” in the unique needs of that population.
- 2 Devoting more resources to primary care — measured in time spent with a physician, number of primary care visits, or simply dollars of primary care expense — can reduce unnecessary and expensive acute episodes.
- 3 The population health model is most effective when practically implemented, relying as much on culture and routine as on technology.

The Challenge: The average older adult is 73 years old and has significant health concerns: 24% have diabetes, 17% have congestive heart failure, and 12% have major depression. Yet she (55% are female) is also ill-equipped to manage her health: 56% have a high school education or less, 45% live under 200% of the federal poverty line, and 29% live alone. The average older adult makes just three visits to a primary care physician/provider per year, each lasting a mere 17 minutes. The mismatch is even worse for older low-income adults and for those in underserved urban neighborhoods where access to health care services is often poor.




The everyday mantra for Oakies, as we call ourselves, is simple: keep our patients happy, healthy, and out of the hospital.”

The Goal: The goal at Oak Street Health is to deliver excellent primary care to older adults in a value-based economic model. We operate a globally capitated, at-risk model in which better outcomes and lower costs are rewarded. The everyday mantra for Oakies, as we call ourselves, is simple: keep our patients happy, healthy, and out of the hospital. Why? Happy patients engage in their care. Engaged patients are more likely to be healthy. And healthy patients don't require expensive hospital admissions. We invest in prevention to reduce downstream costs. That is the virtuous cycle of value-based primary care that we are trying to achieve.

The Execution: We founded Oak Street Health in 2012 to be an at-risk network of primary care clinics exclusively for older adults. We started with a single clinic and, with backing from venture capital, have grown to 15 locations across the Midwest. Our typical clinic is located in a low-income neighborhood, can serve 2,000-4,000 patients in a footprint of 8,000 square feet, and employs over 50 health care professionals, most of whom live in or near the neighborhoods they serve. Roughly 50% of our patients are “dual-eligibles” (e.g., Medicare and Medicaid), though the rate in some clinics reaches 80%. Successful execution of our model rests on three principles: (1) a value-based economic model, (2) integrated population health, and (3) team-based care.

Our Value-based Practice

The Oak Street business model is an integral part of supporting the way we deliver care. Rather than a traditional fee-for-service model, we are a globally capitated/at-risk practice. We partner with not-for-profit and for-profit health plans to create risk-sharing contracts with Medicare Advantage and dual demonstration programs. Although we serve everyone with Medicare who seeks care with us (including fee-for-service Medicare), some 80% to 85% of our patients are in Medicare Advantage or dual-eligible programs.



While medical scribes are a growing part of the health care workforce, Oak Street ninjas [clinical informatics specialists] are tasked with far more than mere data entry.”

Because we have financial responsibility for the entirety of care for these patients — all primary, specialty, acute, and post-acute care — we can make substantial investments in primary care services that have a positive health (and therefore economic) return for our practice. These services allow us to build relationships with our patients, and include transportation between home and primary care visits, substantially longer primary care visits (averaging over 30 minutes), and in-house care management that helps patients coordinate their care across multiple providers. The economic model thus fuels the care model.

Our Technology-enabled Approach to Population Health

Oak Street also has a highly structured and data-driven approach to population health. With the help of processes that we developed, patients are “triaged” into one of four tiers based upon inputs such as age, comorbidities, recent utilization patterns, and degree of social support. A patient’s tier helps to determine a variety of parameters to his/her care, including primary care visit cadence and allocation of care management resources. For example: the sickest 5% of our patients are identified as “Critical,” and Oak Street works to see them in our clinic once every three weeks. Conversely, the healthiest 30% — classified as “Good” — are scheduled far less frequently.

A patient’s tier is constantly reevaluated. As a part of this iterative triage exercise, patients undergo regular, structured geriatric assessments that include evidence-based screenings for depression, fall risk, and adverse drug interactions. These assessments feed into a population health function that captures the need for indicated preventive testing, such as colorectal cancer screening.

More than just a simple software solution, Oak Street’s model of population health combines automation with manual routines that are run by a team working across all of our clinics to identify, refine, and share population-level insights. This creates specific tasks and tools (for example, monitoring medication compliance) that guide patient care. This population health team helps to answer critical questions, such as which patients are at highest risk for admission, or haven’t been to clinic in a while, and thus are unengaged with their care. The information equips our primary care teams to build relationships, educate patients, and improve outcomes.

Our Team-Based Model

Oak Street care teams consist of a physician, nurse practitioner, registered nurse, medical assistant, care manager, and clinical informatics specialist. Team members have explicit roles during and between visits, and teams have structured daily “huddles” to ensure that resources are focused on patients with greatest need.

One unique part of our team-based approach is the role of the clinical informatics specialist, whom Oakies lovingly call the “ninja.” As one may expect, practicing medicine in an at-risk model with a highly comorbid population requires the collection, analysis, and use of an enormous amount of data at the bedside. While medical scribes are a growing part of the health care workforce, Oak Street ninjas are tasked with far more than mere data entry. They capture and structure clinical data at the point of care and deliver population health insights as the clinician executes the care plan, during and between visits. Typically “ninjas” are pre-medical or medical students who defer their studies for a year or two to join Oak Street. They undergo intensive training on ICD-10, data documentation processes, CPT coding, population health dashboards, and other technology platforms.

40%+

**reduction in hospitalizations
of managed care patients**

The Metrics: We regularly measure three high-level objectives that address our “happy, healthy, and out of the hospital” mantra:

- 1. The patient experience as customer experience:** Oak Street uses the Net Promoter Score as a summary metric for patient satisfaction and has achieved a net promoter score of 91 (versus a score of 3 for primary care overall on a scale of -100 to +100 as described by The Advisory Board).
- 2. Evidence-based preventive/chronic care:** For managed care patients who have been in the practice for at least 12 months, Oak Street has achieved a 5-star rating in HEDIS metrics.
- 3. Hospital admissions:** Relative to a geographically-matched Medicare cohort, Oak Street has achieved a 40%+ reduction in hospitalizations of managed care patients from 364 to just over 200 admissions per 1,000 beneficiaries per year, in a population that is notably sicker than average as measured by correlates for morbidity such as socioeconomic status, Medicaid (i.e., “dual-eligible”) status, and prevalence of disease conditions relative to benchmarks.

Where to Start: An organization interested in a value-based model of care should consider:

Is your organization structured to allow team-based care? Is your reporting infrastructure sufficient to support the practice of population health?

Are primary care providers able to lead and manage a team? Do they share the vision and mission to practice in a team-based model with full transparency of clinical outcomes/performance and in recognition of scarce resource allocation?

Is your organization committed to transitioning to a value-based economic model, or are traditional fee-for-service economics too ingrained to change?

Disclosure: Griffin Myers, Geoff Price, and Mike Pykosz are founders and part owners of Oak Street Health.



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Patient Engagement and Behavioral Insights — What People Want Is Health

Blog Post · March 7, 2016

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Director, Center for Health Incentives and Behavioral Economics

In 2004, Blockbuster Video had a market capitalization of more than \$5 billion, with 9,000 stores nationwide staffed by 60,000 employees. In 2010, the company declared bankruptcy before being dissolved. Like many once-proud firms before it, Blockbuster was a victim of its inability to recognize that emerging technologies had enabled a seismic shift in what consumers were demanding — in Blockbuster's case, the convenience of being able to pick movies from the comfort of their own homes via Netflix.

Many companies in many industries have made this same mistake, focusing on what they can easily produce instead of what their customers want. Health care providers tend to focus on providing health services as opposed to producing health. Engaging patients will be easier if we give them more of what they want: better health rather than more health services.

Health care in the United States is at an important juncture. We have seen amazing scientific advances in the past century, but despite spending far more than any other country on health care services, outcomes within the United States for many portions of the population remain poor. Experts have estimated that only 10% of premature mortality in the U.S. may be due to suboptimal quality of health services provision. A much larger share — perhaps as much as 40% — is due to behavioral determinants of health.

Health care providers traditionally regarded health behaviors as out of their sphere of influence and medical training. However, recent improvements in technology, advances in behavioral science, and shifts in health financing create exciting new possibilities to change this.



Engaging patients will be easier if we give them more of what they want: better health rather than more health services.”

We are in the midst of amazing advances in wearable and wireless technologies that can monitor blood pressure, step counts, sleep patterns, and all sorts of other physiologic parameters and behaviors. While high acuity medical care will always need to be delivered in acute care settings, the wearables/wireless market is projected to grow to \$50 billion by 2018. A new ecosystem of wearable and wireless technologies, patient engagement strategies, and provider feedback could manage chronic disease far more efficiently than our current approach of using episodic clinic visits.

However, for such devices to realize their potential to both measure and influence behavior and outcomes, they will need to overcome end-user inertia and create feedback loops with patients that motivate action and sustain engagement. This is where advances in behavioral science can make enormous and as yet mostly unrealized contributions to medicine. Feedback loops can be created that are effective in keeping patients and providers alike engaged — for example, by alerting a physician office when a patient has markedly abnormal blood sugar or blood pressure, thereby allowing the clinicians to focus on patients at high risk without intervention. More broadly, behavioral science can provide important guidance in helping to improve “choice environments,” such as the choice of health plans or providers for patients, through systematic and thoughtful application of defaults to patient and provider decision making, and in the alignment of patient and provider incentives towards improving health.

People often fail to recognize that the current health care delivery system contains a lot of embedded defaults and incentives, and many of these steer both patients and providers in undesirable directions. Fee-for-service payment is often held up as an example of bad incentives, but there are also positive examples. Penn Medicine recently changed physicians’ defaults toward prescribing generics; overnight, the generic prescribing rate went from 40—90% to 99%. Many insurance benefit designs could be significantly improved by making them simpler, such as eliminating inscrutable concepts like coinsurance in favor of copayments — which consumers show they understand — and tying patient cost-sharing to both the value of the services provided and improved health behaviors.

The key to designing a better health care system is to recognize that what patients want is to be healthy, not consume health services. Through technology that centers care provision around the convenience of patients rather than providers, simplified and improved choice environments, and incentives designed to keep people healthy rather than treat them only

when they get sick, providers will improve their chances of improving the health of the U.S. population.

As Lead Advisor for the Patient Engagement theme on NEJM Catalyst, I am pleased to kick off an ongoing series of articles, case studies, interviews, and other contributions from leaders dedicated to improving patient engagement. Please look here often for new ideas, and offer your own. Together we can make a real difference in how patients and providers collaborate, in improving health outcomes, and in improving the U.S. health care delivery system.



Kevin Volpp, MD, PhD

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Why I Believe in Hospital at Home

Article · December 21, 2015

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As a medical resident in the late 1980s, I made house calls to homebound older adults in Baltimore. I loved seeing patients and their families in their own space, thinking about their medical issues in that context, relying a bit more on my physical exam than I did in the hospital, and developing care plans consistent with patients' preferences. I was a trusted guest in patients' homes — being on their turf gave them power over their care.

When these homebound elderly patients got sick, some flat out refused to go into the hospital — patients with pneumonia or exacerbations of chronic illness, even heart attack or stroke. As one amiable Baltimorean told me, “Doc, you guys are wonderful, but you run a crappy hotel.”

I witnessed that reality when I was on inpatient service: terrible food, schedules driven by providers' (not patients') needs, the impossibility of sleep, and maladies galore related to being in the hospital — delirium, falls, functional decline, and so on. In my own practice, I sometimes wonder if hospitalizing a particular patient will confer more harm than benefit.

These experiences prompted us at Johns Hopkins to ask, 20 years ago, “Could acute medical illness that normally requires hospital admission be well managed in a patient's home instead?” The result was Hospital at Home (HaH) — an option for some patients with community-acquired pneumonia, exacerbations of heart failure or chronic obstructive pulmonary disease, cellulitis, and (recently) other conditions. And HaH is still going strong today.

How Hospital at Home Works

A candidate for HaH is usually identified in the emergency department, where an ED physician deems the patient sick enough to warrant inpatient admission (if HaH were not available). The patient must meet validated clinical-appropriateness criteria for HaH and have housing where care can be provided safely. Common reasons to deem a patient

inappropriate for HaH are uncorrectable hypoxemia (low blood concentrations of oxygen) and ischemic chest pain (pain caused by inadequate blood supply to the heart). However, having multiple chronic conditions and living alone are not obstacles to eligibility. Consider this case:

A frail 82-year-old woman who lives with her daughter presents to the ED with increasing shortness of breath. She has a history of dementia, chronic kidney disease, and chronic obstructive pulmonary disease. On examination, she is found to have worsening COPD related to pneumonia.

The ED physician determines that the patient requires hospital admission. She is deemed eligible for HaH, and she and her daughter opt for it. The patient receives her initial dose of intravenous antibiotics and corticosteroids in the ED. The HaH physician in the ED evaluates the patient and mobilizes HaH services — oxygen, respiratory, and infusion therapies, as well as nursing staff. (Resources for these services may come from the hospital, health-system sponsor, or partner vendors.)

The patient is transported home with oxygen by ambulance. An HaH nurse meets the patient at home, provides initial care, and educates the patient and her daughter about the daily routines of HaH. The nurse stays for three to four hours to ensure that all needed services are in place, that the patient is clinically stable, and that she and her family are comfortable with the care. The nurse then communicates the patient's status to the HaH physician, who acts as a home hospitalist, and a care plan is developed collaboratively.

“*As the health system shifts to value-based care, HaH will challenge the traditional, facility-based model. ... And technological advances, such as biometrically enhanced telehealth modalities, will make HaH more viable.”*

For the next three days, home visits occur twice daily by the nurse and once daily by the same physician (more often if clinically indicated). The HaH care team is available 24/7 for urgent issues. If needed, blood tests, X-rays, echocardiography, ultrasound, EKGs, and skilled therapies are provided at home. If the patient requires a diagnostic test that cannot be done in the home (a rare occurrence), she is transported to the hospital for the test and returned home. After treatment (which averages 3 days), the patient is “discharged” from HaH, with subsequent care-transition services as needed.

The Data on Hospital at Home

My colleagues and I conducted our earliest pilot study of HaH in 1997, and we subsequently did a multisite demonstration study in several Medicare Advantage plans and a Veterans Affairs medical center. Early experiences showed that, compared with usual hospital care, HaH resulted in fewer complications (e.g., drastic reductions in delirium), greater satisfaction with care for patients and family members, less caregiver stress, better functional outcomes, and lower costs.

Since then, HaH has been one of the most studied innovations in health care. A 2012 meta-analysis of randomized controlled trials of HaH showed a 38% lower 6-month mortality rate for HaH patients than hospitalized patients. Clearly, if HaH were a drug, it would be a blockbuster!

Hospital at Home has been adopted most successfully by systems that have visionary leaders and the will to align the Great Triumvirate of the hospital, the providers (including ED personnel), and the payer. Examples include Presbyterian Health Services in Albuquerque, New Mexico, which has implemented HaH for its Medicare Advantage patients; the VA, which offers HaH at 11 sites; Cedars Sinai Medical Center, in Los Angeles, which uses HaH in its accountable care organization and in managed care; and Geisinger Health System, which will soon launch HaH.

Obstacles and Opportunities

Traditional, hospital-centric clinical workflows can make HaH challenging to implement. For example:

1. Opportunities to activate an HaH admission may be missed if provider partners and associated vendors fail to make their services available in a timely manner.
2. Patients who have waited for a long time in a crowded ED may not be in the mood to opt for HaH when it is offered.
3. Although a patient already admitted to HaH gets 24/7 coverage, no HaH program is yet equipped to first admit a patient at any time of day or night.

Perhaps the greatest barrier to widespread implementation of HaH is the lack of payment mechanism for HaH in fee-for-service Medicare. But there is hope: New York's Icahn School of Medicine at Mount Sinai is testing HaH, under a CMS Innovation Center challenge grant, to inform a possible 30-day bundled payment model for HaH in fee-for-service Medicare. And the John A. Hartford Foundation is funding a research evaluation.

As the health system shifts to value-based care, HaH will challenge the traditional, facility-based model. In addition to providing a “virtual hospital unit” for acute admission, it allows hospitals to link HaH to disease-management programs and to hospice- and home-based primary- and palliative-care programs. Along with other home-based care models, HaH can be a versatile platform for creating an alternative to skilled-nursing-facility care after hospital discharge, a complement to early-discharge programs, and an option for post-surgical care. And technological advances, such as biometrically enhanced telehealth modalities, will make HaH more viable.

If you doubt that HaH can be scaled effectively, look to Victoria, Australia. The health authority there decided, in the mid-1990s, to pay for an HaH admission at the same rate as an inpatient admission. HaH blossomed. By 2009, nearly 33,000 annual HaH admissions accounted for 5% of all acute bed days, obviating the need to build a 500-bed hospital. Considering that a hospital bed in the U.S. costs about \$2 million to capitalize, HaH can yield a substantial return on investment.

As a boy in the late 1960s, I visited an aunt after her cataract surgery at a major New York hospital, where she lay in bed blindfolded for a week. We now take for granted that nearly all cataract surgery is done on an ambulatory basis. Care *can* move out of the hospital. It's time to open our eyes, get up, and get moving.



Bruce Leff, MD

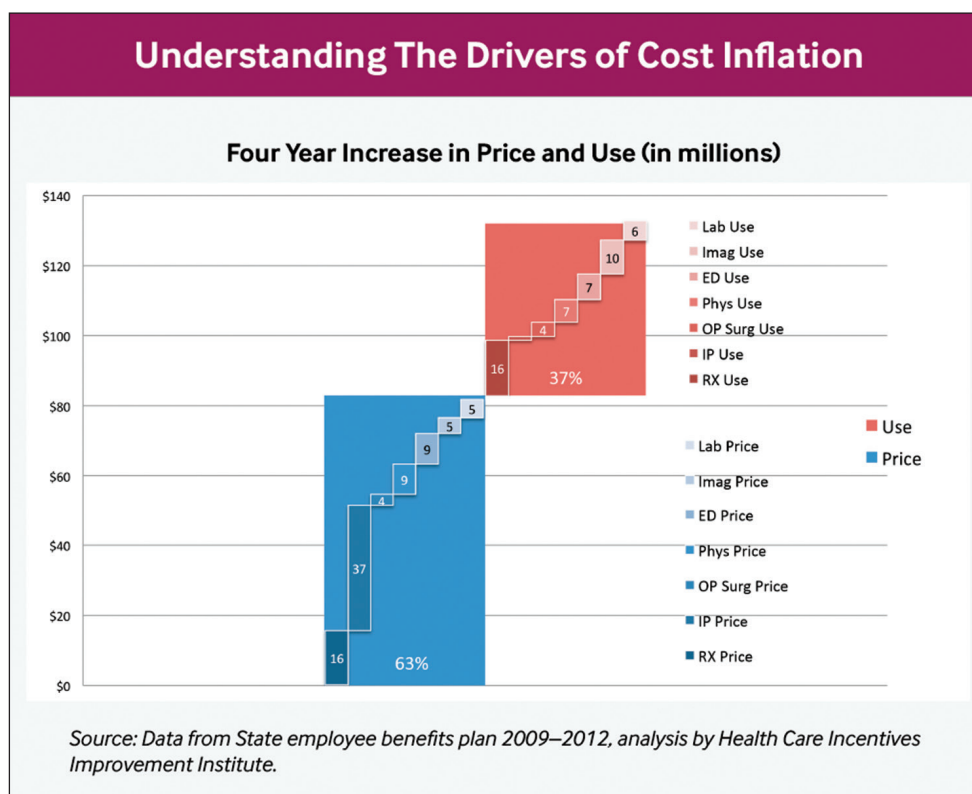
Professor of Medicine at the Johns Hopkins University School of Medicine. His principal areas of research relate to development, evaluation, and dissemination of innovative models of care for older adults, quality of care in home-based medical care, care of people with multiple chronic conditions, and case-mix issues.

My Favorite Slide: Understanding the Drivers of Cost Inflation

Blog Post · March 17, 2016

François de Brantes, MS, MBA

Executive Director, Health Care Incentives Improvement Institute



Every year, employers get reports from their health plans, benefits consultants, and whoever manages their claims data warehouse trying to describe the contributors to employee health care cost increases. More often than not, there are pie charts and tables filled with numbers on various categories of services, major diagnostic categories, and geographic regions. Almost

always these reports are heavy on the details and risk missing the forest for the veins of the leaves on the branches of the trees. That's why, a couple of years ago, my colleagues and I at the Health Care Incentives Improvement Institute were asked by a large employer to make some sense of all these details and draw out a bigger picture.

While I was working for GE, in the days of Bob Galvin's enlightened leadership, we learned to use waterfall charts as a way to help explain changes in costs. This slide combines two waterfalls into a third to tell a pretty compelling story on what contributes to changes in total costs of care for the employer.

The baseline was \$1 billion, so the \$140 million shown represents the cumulative total cost increase between the two periods in time, with an overall stable population size. So even as the underlying number of covered lives stayed the same, costs increased roughly 14% through the study period.

The upshot is that it's about price, not use, and the majority of the price inflation came from inpatient stays. That surprised the consultants and health plans that had blamed an aging population, prescription medication, and chronic disease. At a glance, using a chart like this, any employer can figure out the main driver(s) of cost increases and where to focus their initiatives. That's why it's one of my favorite slides.



François de Brantes, MS, MBA

Executive Director for the Health Care Incentives Improvement Institute, which is a not-for-profit company that designs and implements innovative payment and benefit plan design programs to motivate physicians, hospitals and consumer-patients to improve the quality and affordability of care.



How 30 Percent Became the “Tipping Point”

Blog Post · February 25, 2016

Stephen M. Shortell, PhD, MBA, MPH

One of the most frequently asked questions in discussions of health care reform is whether health care organizations and the country as a whole are reaching the “tipping point” for meaningful change in how we pay for and deliver care.

It has become conventional wisdom among policymakers and health care leaders that around 30 percent is the magic figure. For example, it is argued that unless providers receive around 30 percent of their revenue from risk-based, value-based contracts (versus fee-for-service), there is little motivation for them to spend the time, effort, and resources to fundamentally change how they deliver care. Anything less does not send a strong enough signal. Thirty percent begins to get everyone’s attention that something real may be occurring.

But where does this 30 percent figure come from? It may have originated from two large-scale studies of integrated delivery systems that I and colleagues conducted in the mid-to late-1990s. In this research we examined the strategies that ten leading systems were using to achieve greater functional, physician, and clinical integration. As a result of numerous interviews with clinical and administrative leaders within these systems, “we found as a general rule of thumb that approximately 30 percent of a physician’s practice needed to come from a single source before a physician would consider adopting that source’s recommended care management practices.” We went on to note that “thresholds” appear to be as important as withholds in modern medical management.

We subsequently used the 30 percent figure in presentations across the country and found it appeared to resonate with a variety of audiences. Apparently if you say something often enough, it takes on a life of its own; a self-fulfilling prophecy! At approximately the same time, two of our subsequent colleagues, Larry Casalino and Jamie Robinson, conducted field interviews of medical groups in California and came up with the same figure of around

30 percent before those physicians would make significant changes to develop their managed care capabilities. So 30 percent was on a roll!

But aside from these observation-based field studies, is there any systematic empirical evidence for the 30 percent threshold number? To determine a figure, ideally one would randomize stratified practices to different payment threshold conditions and observe their behavior over a given period of time. Or, in a weaker design, observe a group of practices exposed over time to increasing risk-based payment and see if there is a significant inflexion point on various behavioral change measures (such as systematic use of patient engagement strategies) at around 30 percent. Lacking such studies, one might compare the behavior of practices belonging to Accountable Care Organizations, which have inherent incentives to deliver efficient value-based care, with those practices not a part of an ACO. Data from the National Survey of Physician Organizations (NSPO₃) revealed that those which were part of ACOs indeed scored significantly higher on an index of Patient-Centered Medical Home processes, reflecting better care than those not belonging to an ACO (53 points out of 100 versus 32 points). But we do not know the exact percentage of revenue at risk under such contracts. To approximate this figure, we asked all 1,398 practices in the survey to estimate the percentage of risk that each absorbed for primary care, specialty care, and hospital costs, and then compared these percentages to their score on the PCMH index. We found the biggest change occurred in the 21–30 percent range, where the PCMH score increased significantly — from 36 points in the under 20 percent category to 43 points in the 21–30 percent range. Interestingly, there was no further increase beyond 30 percent.

So while there may be some validity to the 30 percent figure, it is important to recognize the varying contexts in which it may occur. Important considerations include:

1. The amount of incentive involved — that is, 30 percent of your revenue may come from value-based savings, bonuses, or incentives, but if the amount of dollars you get to keep is small, it may be insufficient to motivate changes in behavior.
2. Transparency of external data reporting, in which one's medical practice is publicly compared with others on quality and cost metrics serving as a motivator for change.
3. The presence of individual comparative physician data feedback on quality and cost metrics that appeals to physicians' "intrinsic motivation" to improve care.
4. The extent to which the practice is located in a more competitive market, which may induce more motivation to change to retain current patients while attracting additional patients.

Realistically, these elements are likely to combine to generate the most extensive and sustainable changes.

So here we are, 20 years later from the likely origin of the 30 percent rule, with CMS announcing that 30 percent of Medicare payments will be based on alternative value-based payment models by the end of this year, and 50 percent by the end of 2018. If implemented, the Medicare Access and CHIP Reauthorization Act (MACRA) will provide a merit-based payment system and alternative payment models for all physicians, thereby reinforcing these target figures. They ultimately may be off by a little — but as Sir Archie Cochrane, the renowned British epidemiologist after whom The Cochrane Collaboration is named, once said: “It is better to be roughly right than precisely wrong”!



Stephen M. Shortell, PhD, MBA, MPH

Blue Cross of California Distinguished Professor of Health Policy and Management, Director, Center for Healthcare Organizational and Innovation Research (CHOIR), Dean Emeritus, School of Public Health, Professor of Organization Behavior, Haas School of Business, UC-Berkeley



Care Redesign Survey: Why Population Health Management Is Undervalued

Insights Report · March 31, 2016

Amy Compton-Phillips, MD

Providence Health & Services



Analysis of the first NEJM Catalyst Insights Council survey on the Care Redesign theme. Qualified executives, clinical leaders, and clinicians may join the Insights Council and share their perspectives on health care delivery transformation.

METHODOLOGY AND RESPONDENTS

- In January and February 2016, an online survey was sent to the NEJM Catalyst Insights Council, which includes U.S. health care executives, clinician leaders, and clinicians at organizations directly involved in health care delivery. A total of 297 completed surveys are included in the analysis. The margin of error for a base of 297 is +/- 5.7% at the 95% confidence interval.
- The majority of respondents were clinicians (44%), with executives (29%) and clinician leaders (27%) nearly evenly split. Most respondents described their organizations as hospitals (37%) or health systems (18%). These hospitals were predominantly midsized (29% had 200–499 beds) or larger (49% had 500 or more beds).
- Only 8% of respondents indicated that their major affiliation was with a physician organization. Those physician organizations tended to be big — 64% had 100 or more physicians.
- Nearly three-quarters of the organizations (71%) were nonprofit, with the remainder of respondents coming from for-profit organizations. Every region of the country was well represented.



Focus on the physical manifestations of disease has often ignored what is intrinsically obvious to laypeople — that physical and mental health are inextricably intertwined.”

Hippocrates wrote, “The natural healing force within each one of us is the greatest force in getting well.” While the link between physical and emotional health has been recognized from antiquity, the advent of highly effective, curative somatic treatment medicine relegated the link between the mind and the body to the back burner.

Modern medicine’s expertise in lab testing, imaging studies, and pharmacologic and surgical breakthroughs has produced the miracle cures that Americans have come to see as normal. However, the corresponding focus on the physical manifestations of disease has often ignored what

is intrinsically obvious to laypeople — that physical and mental health are inextricably intertwined.

Clinical Practice Changes to Improve Health of Community Today

	Average Percentage
Investing in behavioral health/mental health services alongside physical health services	24%
Building interdisciplinary teams	13%
Creating community partnerships (e.g., schools, food banks, domestic violence shelters)	13%
Using more APNs and other physician extender roles	12%
Investing in tools for physicians (e.g., EMR optimization, tele-health capacity, population health systems)	11%
Investing in clinical research and performance improvement skills	9%
Building new analytic tools (big data)	6%
Investing in apps and tools to change patient behavior (e.g., Fit-bits, smoking cessation coaches, Omada)	6%
Providing CME for physicians	2%
Other	3%

If you were given \$100,000 to spend today to change clinical practice to improve the health of your community this year, how would you spend it?

Sample size = 297

But attitudes are changing. In the first NEJM Catalyst Care Redesign survey, clinicians, clinical leaders, and health care executives cite “investing in behavioral health services alongside physical health services” as the clinical practice change most likely to improve the health of communities.

This is not a short-term fix, according to the survey respondents. Over the long term, investing in behavioral health and mental health services is the top avenue that the NEJM Catalyst audience would pursue.

Long-term Clinical Practice Changes for Performance Improvement

	Average Percentage
Investing in behavioral health/mental health services alongside physical health services	19%
Creating community partnerships (schools, foodbanks, domestic violence shelters)	14%
Building interdisciplinary teams	13%
Investing in tools for physicians (EMR optimization, telehealth capacity, population health systems)	13%
Investing in clinical research and performance improvement skills	11%
Using more APNs and other physician extender roles	10%
Building new analytic tools (big data)	8%
Investing in apps and tools to change patient behavior (Fitbits, smoking cessation coaches, Omada)	6%
Providing CME for physicians	3%
Other	4%

If you were given \$1 million to invest over the next ten years in changing clinical practice to create long-term performance improvement, how would you spend it?

Sample size = 297

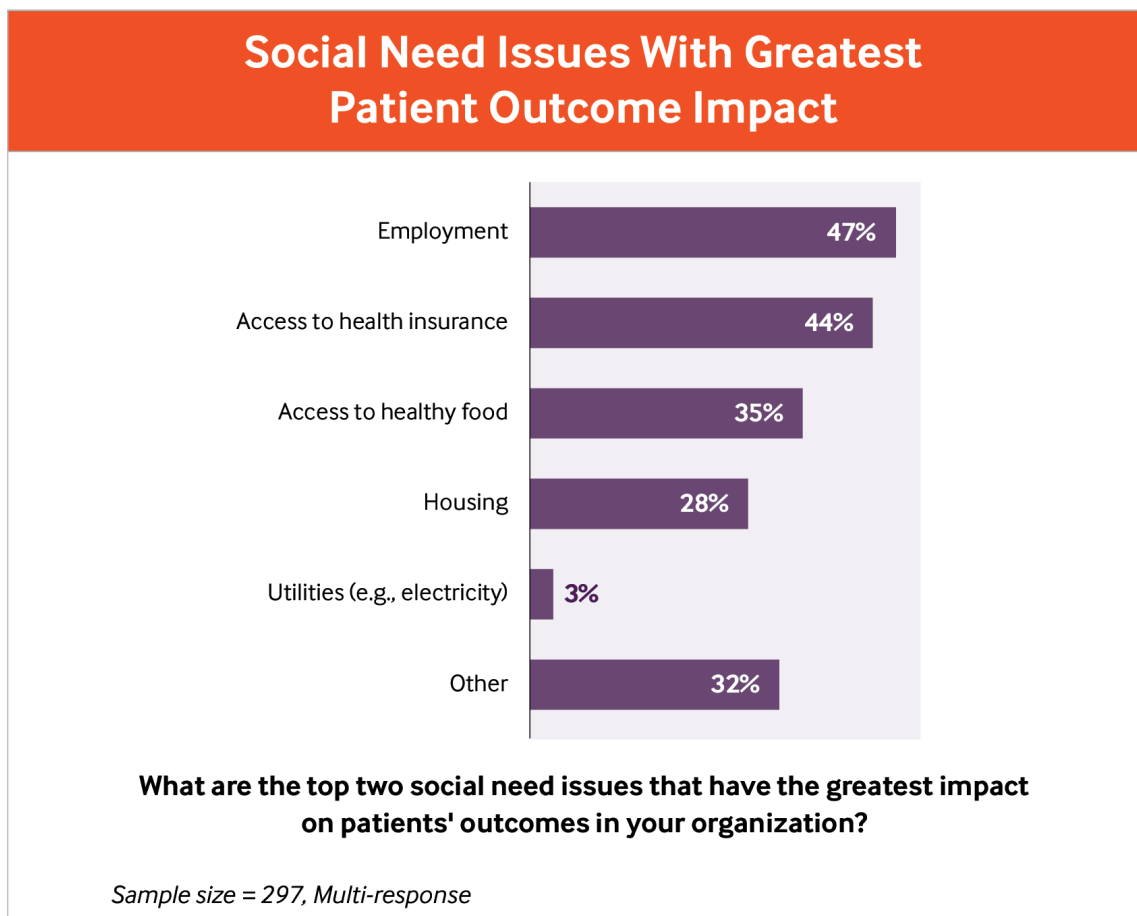
The physical impacts of mental distress have been proven over a wide range of conditions in the literature. The most compelling evidence to me is found in the Adverse Childhood Experience series of publications, showing that there is a strong, graded relationship between traumatic stress in childhood and poor health outcomes (physical, behavioral, and mental) later in life.

W While 77 squeaks into the top quartile, that was a C grade in high school. It is a tepid endorsement for something that so many organizations are betting on heavily.”

Forward-looking health care organizations are starting to change their structures to link the treatment of mental distress and maladaptive behavior to primary care. The Southcentral Foundation in Alaska embedded “behaviorists” in their primary care teams early on their path to developing the Nuka system of care, earning the Baldrige National Quality Award in 2011.

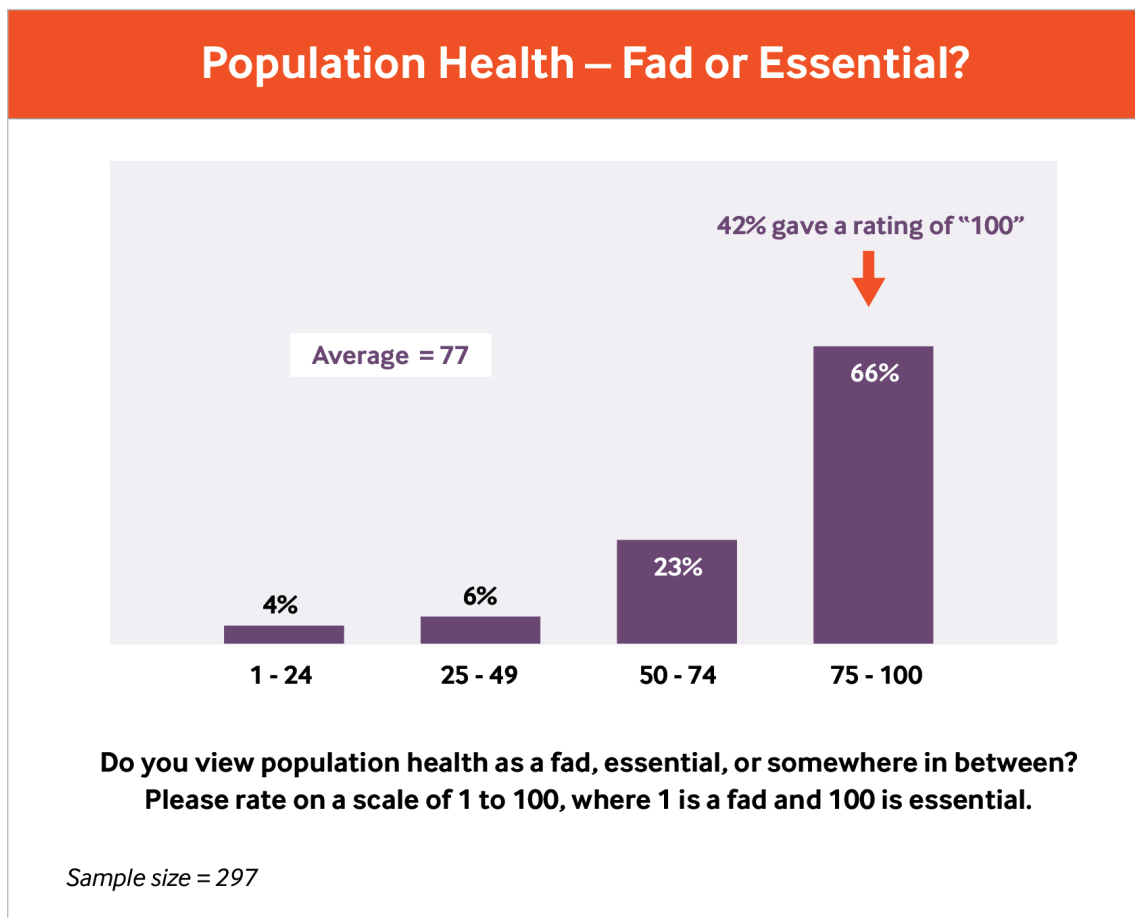
Since then, experiments with models of how to effectively collaborate to treat physical and mental distress concurrently have abounded. Hopefully the end result will be that physicians not only pursue scientifically valid physical treatment, but also cultivate and support the healing force within all patients on their journey to better health.

Our survey data also recognize that in addition to physical and mental health, financial health has a significant impact on patients. The lack of a source of income, access to health insurance, or the foundational elements of Maslow’s hierarchy of needs (food and shelter) have real and substantive effects on health outcomes.




A Passing Grade for Population Health

It was interesting to test what feels like health care redesign dogma — that provider organizations are moving toward wide execution of population health — against the reality faced by clinicians and executives. On a scale from 0 (it's a fad) to 100 (it's critical for the future), population health gets a 77. While 77 squeaks into the top quartile, that was a C grade in high school. It is a tepid endorsement for something that so many organizations are betting on heavily. The verbatim comments from survey respondents helped give insight into why.



Overall, health care administrators and executives responding to the NEJM Catalyst Care Redesign survey are more positively disposed to population health than frontline clinicians.



Forward-looking health care organizations are starting to change their structures to link the treatment of mental distress and maladaptive behavior to primary care.”

The comments by organizational leaders reflect both anxiety and acceptance about actively managing a transition from fee-for-service to new payment models. Population health seems to be viewed as the path to creating better health, with revenue more tightly linked to outcomes, panel management, and improved community health markers.

The hesitation and comments from frontline clinicians about population health also reflect concern about the future of reimbursement, but they tend to focus more on the individual nature of health care and its relationship aspects. Ensuring outcomes across a population seems a laudable goal, but losing

focus on the “N of 1,” on the complexities and benefits of highly personalized, individualized care, is a thread running through the comments of those worried about the implications of population health.

I believe the right path is in the middle. Like virtually any tool, population health can have wonderful uses at the right place at the right time. When doctors and patients understand the evidence-based gaps in routine primary and secondary prevention, the right care is much easier to provide (and receive).

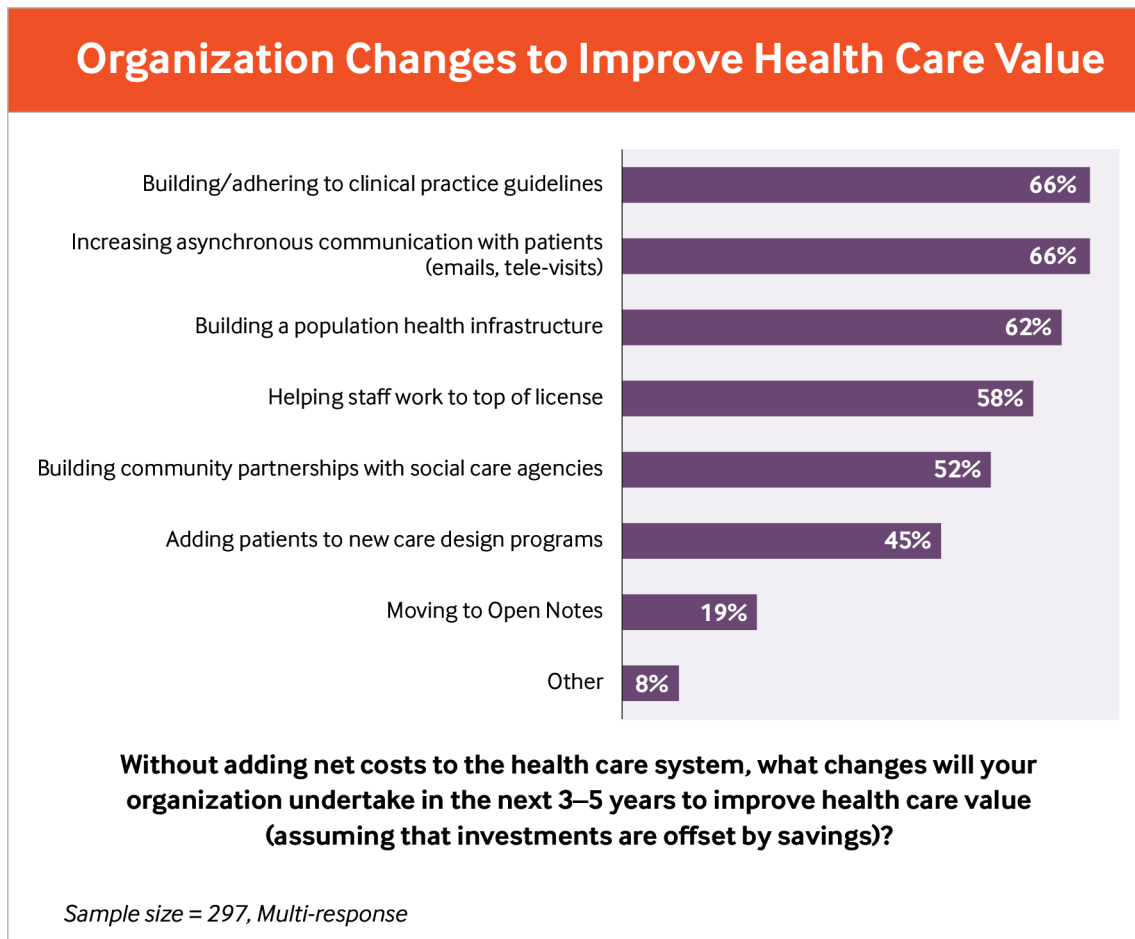


Overall, health care administrators and executives responding to the NEJM Catalyst Care Redesign survey are more positively disposed to population health than frontline clinicians.”

Combined with shared decision making, population health also helps ensure we are enabling person-centered, values congruent care. But for patients with complex co-morbidities or devastating acute conditions — those catastrophic health events where medical miracles occur and where we spend a huge percentage of our GDP — population health may not be a panacea. In our journey towards health care redesign, it can't be the only tool.

In fact, our survey respondents believe that focusing on executing on evidence-based care through clinical practice guidelines and increasing the communication with patients

outside of face-to-face encounters will have more impact.



The good news is that physician practices and provider organizations aren't waiting for the perfect care design, but are actively making and testing changes to the status quo. Building interdisciplinary teams, increasing cost transparency, and leveraging technology are already well on their way to becoming the norm. Despite the barriers that remain rife throughout the system, care delivery leaders are forging a path to the future.



Check NEJM Catalyst for monthly Insights Reports not only on Care Redesign but also on the New Marketplace and Patient Engagement.

VERBATIM COMMENTS FROM SURVEY RESPONDENTS

Do you view population health management as a fad, essential, or somewhere in between?

“Population health management is key to enabling people to take control of their health care needs. As the number of hospitals shrinks and the population ages there needs to be a mechanism in place by which providers and patients remain linked.”

— Executive at a large, nonprofit community hospital in the Northeast

(CONTINUED ON NEXT PAGE)

VERBATIM COMMENTS FROM SURVEY RESPONDENTS (CONTINUED)

“American medical system has created false expectations. All cancers can be cured, surgery is the answer for heart disease, screening for everything detects all serious diseases. Early detection is the answer. Diet, nutrition, healthy life style, non-smoking, and moderation of alcohol consumption are simply not adequately emphasized.”

— *Clinician at a large, nonprofit teaching or university hospital in the South*

“There is certainly some faddish behavior around population health but it needs to be a core value of our health care delivery system.”

— *Clinical leader at a small, nonprofit teaching or university hospital in the Mid-Atlantic region*

“Our organization focuses on population health. However, precision medicine is equally important. When a physician encounters a patient, N = 1.”

— *Executive at a for-profit payer on the Pacific Coast*

“So far I have not been impressed with the vision nor the outcomes of current population health research and programs.”

— *Clinician at a nonprofit post-acute care provider in the Mid-Atlantic region*

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VERBATIM COMMENTS FROM SURVEY RESPONDENTS (CONTINUED)

“It is partly fad, and mostly aspirational rather than reality. However, it’s a necessary idea.”

— *Department chief at a teaching or university hospital in the Northeast*

“It is important to understand population health parameters so resources can be dedicated on [a] large scale for intervention with high-risk populations such as smokers, diabetics, and the like. The risk to overemphasizing population health is that some interventions may not have desired outcomes so there needs to be focused efforts on areas that have a proven benefit and avoid focusing on outcomes without demonstrated benefit. It’s not a magic bullet and won’t replace the therapeutic relationship that can [be] between a patient and a trusted physician.”

— *Clinician at a small, for-profit clinic in the South*

“It’s important but not sufficient. We can’t abandon high-level care for those who have disease.

— *Department or service line leader at a medical school program in the Southwest*

“Population health will succeed as a population movement, not as a health care movement. Until then its definition is necessarily limited though I think we are beyond the tipping point in health care.”

— *Executive of a midsized, nonprofit health system in the Southwest*

(CONTINUED ON NEXT PAGE)

VERBATIM COMMENTS FROM SURVEY RESPONDENTS (CONTINUED)

“I only spend less than 1% of patients’ awake-time with them, so having input/structure to the other 99% is critical.”

— *Clinician at a midsized, for-profit organization in the Southeast*

“We do not have unlimited financial resources so what we have has to be applied in an informed manner. Effective population health management is driven by good data and allows us to better direct resources where impact will be greatest.”

— *Chief Medical Officer at a nonprofit organization in the South*

“It seems to be the flavor of the month in responding to government mandates.”

— *Executive at a large, nonprofit community hospital in the Mid-Atlantic region*

Join the NEJM Catalyst Insights Council and contribute to the conversation about health care delivery transformation. Qualified members participate in brief monthly surveys.

Amy Compton-Phillips, MD

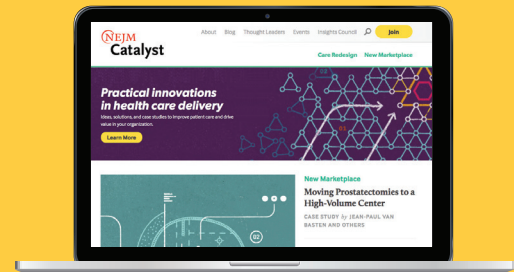
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