Engaging Stakeholders in Population Health

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That Engages Partners in All Sectors

A Community Health Business Model

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FEATURE
Population Health Improvement: A Community Health Business Model That Engages Partners in All Sectors

David A. Kindig and George Isham

Summary • Because population health improvement requires action on multiple determinants—including medical care, health behaviors, and the social and physical environments—no single entity can be held accountable for achieving improved outcomes. Medical organizations, government, schools, businesses, and community organizations all need to make substantial changes in how they approach health and how they allocate resources.

To this end, we suggest the development of multisectoral community health business partnership models. Such collaborative efforts are needed by sectors and actors not accustomed to working together. Healthcare executives can play important leadership roles in fostering or supporting such partnerships in local and national arenas where they have influence.

In this article, we develop the following components of this argument: defining a community health business model; defining population health and the Triple Aim concept; reaching beyond core mission to help create the model; discussing the shift for care delivery beyond healthcare organizations to other community sectors; examining who should lead in developing the community business model; discussing where the resources for a community business model might come from; identifying that better evidence is needed to inform where to make cost-effective investments; and proposing some next steps.

The approach we have outlined is a departure from much current policy and management practice. But new models are needed as a road map to drive action—not just thinking—to address the enormous challenge of improving population health. While we applaud continuing calls to improve health and reduce disparities, progress will require more robust incentives, strategies, and
action than have been in practice to date. Our hope is that the ideas presented here will help to catalyze a collective, multisectoral response to this critical social and economic challenge.

**Introduction**

Increasing attention is being given to improving health in all communities across the United States. As a nation, in terms of our health outcomes, we lag most developed countries by a wide margin, despite spending substantially more (IOM 2013). In addition, significant geographic variation is seen in health outcomes within the United States (County Health Rankings 2011), including unacceptable disparities in morbidity, mortality, and risk factors. Absolute worsening of mortality rates in many US counties has been noted over the last several years (Kulkarni et al. 2011; Kindig and Cheng 2013).

It is one thing to highlight this poor performance; it is another to motivate sustained improvement. As shown in Exhibit 1, from the University of Wisconsin County Health Rankings model, health outcomes are produced by multiple factors, or health determinants—including medical care, health behaviors, and the

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**Exhibit 1 County Health Rankings Model, 2012**

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social and physical environments (County Health Rankings 2013a). Furthermore, the contribution of healthcare to health is modest—only 20 percent—a fact that many healthcare leaders may find surprising.

In light of these factors, no single entity can be held accountable for achieving the goals of improved population health. Collective effort is needed by sectors not accustomed to working together and by stakeholders who may not be aware of how their actions affect population health. In addition, incentives and new public and private resources (both knowledge and funding) must be created to ensure that plans are implemented.

In this article we call for a new generation of multisectoral partnerships, organized using the elements of a community health business model, to accomplish these goals. The issue is not that such efforts have not been tried in the past or do not exist today. The Healthy Community movement of the 1980s was a significant effort, but it was not sustained or supported (Pittman 2010). In many communities, public health leaders have been developing relationships with healthcare and business organizations, often supported by foundation or federal grants or community philanthropy. National bodies such as the Institute of Medicine (2011b) have called for more robust multisectoral partnerships at the local level.

So the idea is not new, but its robust and sustained implementation would be. It is time to move beyond grants and isolated efforts to partnerships with substantial structures, incentives, and financing. Using one example from the healthcare sector, we advocate here for community-level partnerships built on a community health business model to achieve goals heretofore not achieved.

**Defining a Community Health Business Model**

Population health improvement cannot be the responsibility of a single sector. Essential contributions must also come from those that have secondary influence on health outcomes, such as business, education, state and local government, community development, and philanthropy. We argue that efforts must be made to form partnerships drawn from all sectors and that those partnerships be integrated using a community health business model.

A business model describes how an organization creates, delivers, and captures economic, social, or other forms of value. Business models represent the core aspects of a business, including its purpose, offerings, strategies, infrastructure, organizational structure, trading practices, and operational processes and policies (Johnson, Christensen, and Henning 2011).

While such models are usually developed by individual firms in the corporate sector, some that are suitable for application in the health business arena are available from entities in business, government, and the nonprofit sector. This idea is related to the concept of social entrepreneurship or collective impact (Kania and Kramer 2011), in which innovative, social value–creating activity occurs both within and across the nonprofit, government, and business sectors. Harvard Business School Professor Michael E. Porter, PhD, recently observed that the “solution lies in the principle of shared value, which involves creating economic value in a way that also creates value for society by addressing its needs and challenges” (Porter and Kramer 2011).
We believe the business model concept, if adapted for use by communities, may provide a platform for the more robust and sustained implementation effort that is required to accelerate and sustain population health improvement in communities across the United States. A community health business model would have to go beyond narrow interests to involve many sectors and organizations that can command sufficient resources or control over the actions required for improving health outcomes. An Institute of Medicine (2011b) report suggests a framework for measuring accountability of different actors in producing better public health processes as well as potential joint accountability for health in communities. The report identifies government, education, healthcare, business, and community organizations as among those that can allocate resources toward achieving results.

To adapt the business model concept for use by multisectoral partnerships in communities, we propose that the following elements of a community health business model be designed and implemented in each community across the country:

1. All stakeholders from relevant sectors that can affect the population's health must be engaged in the process, as no single stakeholder has the resources to achieve, or can be accountable for, improved health in communities.
2. The community health business model must operate in a transparent manner and engage and report its progress to the general public.
3. A leadership structure needs to be designed and implemented.
4. Common purpose needs to be established. To do so, the benefits of improved health to the community must be identified and aligned with the benefit to be gained by individual stakeholders. Common purpose for these partnerships would address improved health for the community and depend on the identification of effective strategies that get to that overall goal. Those strategies would need to consider the particular state of health and availability of resources in each community.
5. Resources, including required skills, financial resources, and infrastructures, need to be identified.
6. Collective and in-kind evidence-based interventions that are directed at the overall purpose of improving community health and that are consistent with the identified community health improvement strategies must be established and implemented collectively and in each sector by the partners.
7. Economic incentives need to be identified to shape collective and individual stakeholder actions that are consistent with the overall purpose of improved community health and with the identified community health improvement strategies.
8. The state of health in each community needs to be assessed and monitored on an ongoing basis to inform the efforts of the community health partnership. The effectiveness of the community health improvement strategies and the progress of the evidence-informed

To achieve our broad population health goals, we need to understand and intervene across the whole spectrum of determinants, not just healthcare.

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interventions need to be measured and assessed.

9. The lessons learned from each cycle of effort must be incorporated into the continuous redesign and improvement of the community business model for health improvement.

Successful community health business models across the country will also require the commitment, supportive policies, and infrastructures of state, regional, and federal levels of government to assign the appropriate national context to the importance of health improvement, provide incentives for that improvement in communities, and provide information against which a community may evaluate its success relative to other communities.

**Population Health Defined, and the Triple Aim**

While healthcare organizations have as their core responsibility to improve population health through the delivery of clinical services, they can also work beyond this core mission to address other determinants of health. The past five years have seen the evolution of the Triple Aim, first articulated by Donald M. Berwick, MD; Thomas W. Nolan, PhD; and John Whittington when Berwick was CEO of the Institute for Healthcare Improvement (Berwick, Nolan, and Whittington 2008) and later adapted for the National Quality Strategy when Berwick was administrator of the Centers for Medicare & Medicaid Services (HHS 2011). (The main difference between the two versions is that the Triple Aim proposes that improvement initiatives pursue a broad system of linked goals—the improvement of individual experience of care, the improvement of the health of populations, and the reduction of per capita cost of care for populations—whereas the three aims of the National Quality Strategy are better care, healthy people and communities, and affordable care.)

The Triple Aim is one of the leading contemporary forces for population health change in the United States. Not only does it motivate healthcare systems to focus on the two healthcare goals of reduced costs and improved care experience, but it also includes improved population health as the third leg of the triangle. However, this third aim is far from fully understood or developed, either conceptually or in practice.

Most healthcare leaders are fully occupied with the more familiar goals of improving the experience of healthcare and reducing per capita cost of healthcare. Indeed, it would be foolish to diminish the importance of the model’s clinical goals, which may represent our best short-term strategy to mobilize resources for improvement in the broader determinants of health. But the reality is that even major progress in these two areas over the next decade will not help us achieve our goals related to robust life expectancy and disparity reduction without explicit attention to improving health.

To achieve our broad population health goals, we need to understand and intervene across the whole spectrum of determinants, not just healthcare. However, this requirement is not clearly communicated by the Triple Aim model. Exhibit 2 compares the Triple Aim model with a broader model of population health taken from the MATCH/County Health Rankings project at the University of Wisconsin–Madison School of Medicine and Public Health (Kindig 2011b).
As the exhibit shows, the two lightly shaded legs of the Triple Aim stool (bottom of triangle) relate only to a single determinant, healthcare. The third component is titled “population health,” but it is not clearly defined. We think it is important that the population health part of the Triple Aim model be clarified to convey that population health outcomes (among populations or individuals) are influenced by multiple determinants, most of which are beyond the scope of healthcare delivery (the boxes on the right-hand side of Exhibit 2 accompanied by the large question mark).

The Institute of Medicine’s (IOM) Roundtable on Population Health Improvement, which we co-chair (IOM 2011a), uses the following definition of population health to guide its work: “the health outcomes of a group of individuals, including the distribution of such outcomes within the group” (Kindig and Stoddart 2003). While not a part of the definition itself, it is understood that such population health outcomes are the product of multiple determinants of health, including medical care, public health, genetics, behaviors, social factors, and environmental factors.

The Roundtable definition goes on to say the following:

[W]e recognize that this term is currently being used by some health care organizations to describe the clinical, often chronic disease, outcomes of patients enrolled in a given health plan. Certainly an enrolled patient group can be thought of and managed as a population, but defining population health solely in terms of clinical populations can draw attention away from the critical role that non-clinical factors such as education and income play in producing health.

Jacobson and Teutsch (2013) recommend that “current use of the abbreviated phrase population health should be abandoned and replaced by the phrase total population health.” They state that “this will avoid
confusion as the clinical care system moves rather swiftly toward measuring the health of the subpopulations they serve. Geopolitical areas rather than simply geographic areas are recommended when measuring total population health since funding decisions and regulations are inherently political in nature” (Jacobson and Teutsch 2013).

The IOM Roundtable further observes that (IOM 2011a)

*at the current time there is variation in which concept or definition Triple Aim practices use. . . . While many embrace a population health or population medicine perspective, a few are striving towards a geographic regional emphasis moving towards a population health definition.*

**Reaching Beyond Core Mission: A Healthcare Example**

Stakeholders need to evaluate their capabilities and opportunities in order to form partnerships in addressing a broad array of health determinants. Gaining experience within their own organization prepares stakeholders for eventual participation in fully established community partnerships based on the community health business model.

One healthcare stakeholder serves as an example by engaging in population health improvement in an expanded way, going beyond its core mission of healthcare delivery and, in partnership with others, addresses additional determinants of health.

HealthPartners, a 1.4 million member, consumer-governed, nonprofit integrated health system in Minnesota, began to discuss such partnerships during its 2010 formal strategic planning as goals and objectives were being established for 2014 (Isham et al. 2013). Through these initial preparations, the HealthPartners board of directors became aware that to achieve its mission—“To improve health and well-being in partnership with our members, patients and community”—much more than excellent clinical care would be required. Using the population health model from the University of Wisconsin (which estimates that clinical care contributes 20 percent of the total impact on health outcomes, health behaviors 30 percent, social and economic factors 40 percent, and the physical environment 10 percent; see Exhibit 1), one of us (GI) worked with HealthPartners’ staff and board members to define the relationship of various determinant categories to the organization’s mission, existing capabilities, and degree of control over outcomes.

The HealthPartners board understood that all four categories were important to its stated overall mission. However, its members recognized that HealthPartners’ existing capabilities and degree of control were more robust in clinical care, it shared control with public health for health behaviors, and it had less robust capabilities and control compared to those of other actors for socioeconomic and environmental factors. It followed that HealthPartners would have to execute well in clinical care, partner effectively with public health in modifying health behaviors, and be an effective partner with other stakeholders in community efforts to address socioeconomic and environmental determinants of health. This paradigm was new territory for some HealthPartners board members; they observed during this process that “we are not the public health department” and we “can’t be everything to everyone,” and directed that HealthPartners “find our niche” given the organization’s capabilities and priorities and find ways to partner
staff participated in many local and state activities in the four determinant categories (Exhibit 3) for the purpose of setting priorities among existing and new activities for 2010–2014.

A group of internal experts in public health was convened and interviews were conducted with community leaders to learn more about needs and opportunities. As a result, for example, HealthPartners created a set of materials and tools to promote healthy eating for schools, workplaces, and individual consumers. It was determined that these existing assets could be deployed more broadly in partnership with community-based organizations and schools. State and public health data were also reviewed, and HealthPartners staff participated in many local and state planning activities, obtaining a sound knowledge of community health priorities. Areas were prioritized for consideration by matching the best assets of HealthPartners with the highest need.

**Beyond Healthcare Organizations to Other Community Sectors**

Which organizations should lead in developing the community business model? A collection of background essays on population health partnerships published in a special issue of *Preventing Chronic Disease* (Shortell 2010; Bailey 2010) indicated that, in some communities, leadership may come from the healthcare sector, and in others, it may come from public health entities, businesses, or community organizations such as the local United Way.

The HealthPartners approach offers one example of how a multisectoral

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**EXHIBIT 3** HealthPartners Health Driver Program

<table>
<thead>
<tr>
<th>Key Outcome</th>
<th>Health Determinant</th>
<th>Primary Drivers</th>
<th>Mission, Capabilities, Control</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Improved Health</strong>&lt;br&gt;(as Measured by a Summary Measure of Health)</td>
<td>Healthcare (20%)</td>
<td>Preventive Services&lt;br&gt;Acute Care&lt;br&gt;Chronic Disease&lt;br&gt;End of Life&lt;br&gt;Cross-cutting Issues</td>
<td>• Central to Mission&lt;br&gt;• Many Capabilities&lt;br&gt;• High Control</td>
</tr>
<tr>
<td></td>
<td>Health Behaviors (30%)</td>
<td>Tobacco Nonuse&lt;br&gt;Activity&lt;br&gt;Diet/Nutrition&lt;br&gt;Alcohol Use</td>
<td>• Central to Mission&lt;br&gt;• Shared Capabilities&lt;br&gt;• Shared Control</td>
</tr>
<tr>
<td></td>
<td>Socioeconomic Factors (40%)</td>
<td>Community Identified Drivers (Advocacy and Participation)</td>
<td>• Aligned with Mission&lt;br&gt;• Limited Capabilities&lt;br&gt;• Limited Control</td>
</tr>
<tr>
<td></td>
<td>Environmental Factors (10%)</td>
<td>Community Identified Drivers (Advocacy and Participation)</td>
<td></td>
</tr>
</tbody>
</table>

*Source: Adapted from G. Isham and D. Zimmerman, presentation, HealthPartners Board of Directors Retreat, October 2010.*
community business model partnership can evolve as each organizational sector begins to commit resources and to take action both within its control and with others where partners are needed. Wherever a population health initiative begins, the partnership process will likely start with sectors whose links to mission and health are relatively straightforward, and it will eventually evolve to include sectors such as agriculture and transportation, where the health impact is less direct.

As demonstrated by HealthPartners, motivated and committed leaders are critical, and they need to recruit appropriate partners with the skills and resources to achieve community priorities. Thus, leaders must have a sophisticated understanding of how health objectives are important not only to the community but also to individual organizations so that individual and community business models work synergistically.

How would such effective partnerships develop? One possibility is by way of the status quo, where each sector makes uncoordinated investments to optimize its own goals, which may or may not include population health improvement. We have ample evidence to show that under this current situation, few—if any—communities are as healthy as they could be.

Another option is to garner adequate accountability by one sector taking lead responsibility for population health improvement, using informal or formal authority to ensure that others play their roles. While this approach may work in some places, in others it may result in conflict or have limited effectiveness. Some concerns related to this approach are that healthcare organizations may overemphasize biomedical approaches, that governmental public health is too underresourced for even its critical traditional functions, and that business time and energy might be challenged by competing goals.

If such concerns manifest themselves, in at least some locations it might be necessary to develop a strong and neutral cross-sectoral coordinating entity or mechanism at the helm. The outside border in Exhibit 4 illustrates this mechanism as a super–health integrator (Kindig 2010).

With appropriate financial resources and authority, such an integrator could align investments and activities across the multiple sectors, which would affect population health factors, such as healthcare, public health, schools, employers, and community organizations (Chang 2012).

To our knowledge, no such mechanism has been fully developed, although pieces exist in many healthy community partnerships. Such an entity likely would not be governmental or corporate, but would certainly need active public- and private-sector involvement. And, as noted, it would need some authority and financial resources to do its work. Such integrators, outcome trusts (Kindig 1997), or accountable health communities (Magnan et al. 2012) might draw on the principles of social entrepreneurship by emphasizing strategic partnerships and leveraging resources to raise levels of performance and accountability. The integrator role in some communities might be played by the local United Way, which has as its three goals health, education, and income and has considerable experience with the corporate community.

We are not naive about the potential challenges such nontraditional structures pose, but addressing the multiple determinants of population health to optimize our communities’ well-being will almost certainly require some form of coordinating authority.
Incentives and Resources for a Community Partnership Business Model

However such cross-sector business models evolve, new incentives and resources are needed to make the models deliver results.

Incentives

As outlined in another collection of population health essays on incentives featured in a special issue of Preventing Chronic Disease (McGinnis 2010), while moral incentives, framed as either the right thing to do or corporate social responsibility, can be important motivators to be celebrated, they will not likely alone deliver the performance needed for improving health outcomes.

In some instances, regulatory incentives, such as laws requiring seat belt use in vehicles and limiting smoking in public spaces, are appropriate. However, such mandates are often viewed as coercion and can be controversial. It is therefore unlikely that population health objectives will be fully achieved through regulation.

Steady progress will primarily come through stronger remunerative or financial incentives, whereby material rewards accrue to individuals or organizations in exchange for acting in a particular way. But on the other hand, it is probable that all three types of incentives will be needed to incite broad action and investment to allow a community health business model to develop and thrive. Good intentions will not be adequate—each sector must see how improving population health contributes to its own primary mission, in the form of productive employees for business, and in the form of students equipped to learn for educators. Each sector must also see economic alignment of its business model with the community health business model.
Resources
There is no doubt that new or realigned resources will be required if our population health improvement efforts are to be accelerated. Where can such resources come from in these times when both public and private sectors are facing economic pressure? We suggest five major opportunities for identifying new or reallocating existing resources to bring community health business models alive.

1. Capture Funding from Reduction of Ineffective Healthcare Spending
It is now widely accepted that the United States delivers less health for the dollars invested in healthcare than any other developed nation (IOM 2013). Governmental and business leaders are calling for significant efficiencies to keep public programs healthy and improve corporate competitiveness. Many experts assert that as much as 25 percent of all healthcare expenditures are for services considered to be ineffective. Another recent estimate of such a “health dividend” available from improved effectiveness is $750 billion annually (McCullough et al. 2012).

While challenging, capturing these dollars for reinvestment in more effective programs and policies within and outside of healthcare should be a high priority for both public- and private-sector leaders. Consideration should be given to setting aside a community share from savings anticipated under the implementation of accountable care organizations, which are designed to provide higher-quality care in an efficient manner (Shortell 2013). The Center for Medicare & Medicaid Innovation, part of the Centers for Medicare & Medicaid Services, is devoting resources to population health; its Health Care Innovation Awards program includes promising population health initiatives in asthma and diabetes treatment and in efforts to integrate community-based resources, public health, and clinical services (Center for Medicare & Medicaid Innovation 2012). In addition, the State Innovation Models Initiative includes a major focus on community-based population health initiatives in both its design and testing phases. These demonstrations could lead to policy approaches that result in additional investment from within healthcare into community health.

In addition, as uncompensated care burdens are minimized under healthcare reform, community benefit resources required by the Internal Revenue Service for nonprofit hospital tax-exempt status might be redirected from charity care and unreimbursed Medicaid to broad health-promoting investments (Young et al. 2013; CBO 2006; Bakken and Kindig 2012). This amount is considerable; as of 2002, the only year ever examined, the national value of this tax exemption was $12.2 billion, and current estimates project a much higher amount (Bostic et al. 2012).

2. Better Return on Investment from Policies and Programs Outside of Healthcare
Savings from healthcare alone will not be adequate to improve population health outcomes. Increased attention is being paid to “health in all” policies in non–medical care sectors such as housing, agriculture, and education, which are defined as those policies that have a primary impact in a non-healthcare sector but often have secondary health-promoting features. For example, a new US Department of Housing and Urban Development demonstration project awards rental assistance subsidies to state housing agencies or other nonprofits that partner with state health and human services and Medicaid agencies (Bostic et al. 2012).
Government funding can play a key role in allowing local public health agencies to carry out their core functions as well as actively contributing to the types of community partnerships envisioned here.

3. Strengthen Governmental Funding for Population Health Improvement at All Levels

While federal, state, and local budgets are currently stressed, public health and prevention efforts deserve serious attention as the economy recovers. Prevention expenditures are below demonstrated cost-effective levels in classic prevention investments (Trust for America’s Health 2008). Also, considerable variation is seen across states and counties for essential services that are taken for granted by many of us, including the accessibility of food, environmental quality, and infectious and chronic disease control. Government funding can play a key role in allowing local public health agencies to carry out their core functions as well as actively contributing to the types of community partnerships envisioned here.

Specifically, a 2012 IOM report recommends setting national targets for cost reduction and improvement in life expectancy, establishing a consistent cost accounting system for public health agencies to provide reliable cost data, doubling the investment in governmental public health from $12 billion to $24 billion, ensuring that all public health departments provide a minimum package of public health services, and raising these resources through a healthcare transaction tax (IOM 2012). It should be noted, however, that these resources are only those needed for governmental public health and do not include investments required in other sectors for other determinants.

4. Focus on Philanthropy

Many private foundations, such as the California Endowment and the Robert Wood Johnson Foundation, are increasingly focused on developing comprehensive neighborhood pilot strategies for health improvement. Similarly, community social service agencies can play—and are playing—increasingly critical organizational and financial roles in catalyzing health business models at the community level. Part of the mission of United Way Worldwide, for example, is to “galvanize and connect . . . individuals, businesses, non-profit organizations and governments [to] create long-term social change that produces healthy, well-educated and financially-stable individuals and families.” Some communities have historical patterns of substantial philanthropy that could be emulated elsewhere.

5. Engage Corporate Business Leaders

Employers have a rich history of philanthropy, but they also have a stake in a
The involvement of business with healthcare and public health is often focused on reducing healthcare costs and improving employee productivity (Baicker, Cutler, and Song 2010). As important as these factors are, we believe that many other factors contribute to better health, providing a strong rationale for an even wider role for business in making the communities in which they operate healthier. This role can be rooted in core business objectives far beyond corporate social responsibility. According to Andrew Webber, former president and CEO of the National Business Coalition on Health, “Business leaders must understand that an employer can do everything right to influence the health and productivity of its workforce at the worksite, but if that same workforce lives in unhealthy communities, employer investments can be seriously compromised” (Webber and Mercure 2010).

Better community health can contribute to the bottom line in many ways beyond reducing healthcare costs. Catherine Baase, MD, global director of health services at the Dow Chemical Company, has identified the following benefits of business involvement: attracting and retaining talent, engaging employees, supporting human performance, ensuring personal safety, supporting manufacturing and service reliability, ensuring sustainability, and managing brand reputation (Kindig, Isham, and Siemering 2013).

“How Would You Put the Money?” Informing Cost-Effective Investment

Better evidence is needed to inform cost-effective investment. While we argue for the need for a regular, sustainable revenue stream to support population health improvement, we have not directly addressed the question of how these dollars should be allocated. One of the authors of the important Evans-Stoddart population field model notes in his 2003 American Journal of Public Health article that “redirecting resources means redirecting someone’s income. . . . [M]ost students of population health cannot confidently answer the question . . . well, where would you put the money?” (Evans and Stoddart 2003).

This statement echoes two earlier quotes. The first, by Victor Fuchs in 1974, is as follows:

> How much, then, should go for medical care and how much for other programs affecting health, such as pollution control, fluoridation of water, accident prevention and the like. There is no simple answer, partly because the question has rarely been explicitly asked.

The second is one of our own, from a 1996 Association for Health Services Research presidential address (Kindig 1999):

> Now that we are in a time when attention is turning to fundamental health outcomes, when performance and value purchasing are becoming discussed by business coalitions, when there is serious discussion of a new connection between medicine and public health, we find that our research community has not invested nearly enough in the knowledge and understanding we need to guide policy.

Why don’t we know more precisely what to recommend to policymakers to
close these gaps? Can’t we simply link the huge variation in health outcomes we see across states and communities to financial and nonfinancial policy investments over time? Why have we not simply estimated community level, per capita policy, and programmatic investment in each health factor area (health behaviors, clinical care, social and economic factors, and the physical environment) to derive a base level of investment needed to achieve health benchmarks (Kindig and Mullahy 2010)?

We believe that a community business model that involves all sectors in partnership can function as a road map.

Some limited national- and state-level research and policy analysis has been conducted on this question. The Trust for America’s Health estimated in 2008 that investing $10 per person per year in proven community-based programs to increase physical activity, improve nutrition, and prevent smoking could save the United States more than $16 billion annually within five years. In 2009, Kim and Jennings found that at the state level more generous education spending, progressive tax systems, and more lenient welfare program rules help to improve population health. However, the magnitude of the effects was quite small, most likely because using the state as the unit of analysis masks much of the important variation in outcomes and investments at local levels. In cross-national analysis, Bradley and colleagues (2011) argue that an important reason for the poor performance of the US health system is the relative proportion of nonhealthcare social services spending to health services spending; in other developed countries it is 2.00 to 1, whereas in the United States it is 0.91 to 1.

What is wrong here? It is true that going beyond simply describing differences to finding causal pathways is extremely complicated. Methods and data sets to explore these relationships are limited, and so far few studies even show associations of factors producing health disparities—even fewer indicate the relative cost-effectiveness of policies across determinants such as healthcare and behaviors and the social determinants of health.

In addition, little guidance is available because of the lack of comparable investment information across small units of population, such as communities and counties. Tim Casper and I (DAK) examined the availability of such data in a sample of Wisconsin counties for per capita expenditures in select categories of healthcare, public health, human services, income support, job development, and education. We found that even this well-resourced state is challenged by the difficulty in locating usable data, a lack of resources among public agencies to upgrade information technology systems for making data more usable and accessible to the public, and a lack of enterprise-wide coordination and geographic detail in data collection efforts (Casper and Kindig 2012).

While waiting for such improved evidence, an intermediate goal could be to increase investment in public health to make available the minimum package of public health services, as recommended earlier, and to create packages of evidence-based policy options across all determinants that are tailored to individual communities (Kindig 2011a). For example, some communities have good healthcare access and quality while their attention to social and environmental factors is underdeveloped. Enormous variation is seen across the country in such profiles, but it is likely that a reasonable number of representative situations exist for most communities.
and counties to reference. For each profile, using the best evidence available from sources such as the MATCH What Works (County Health Rankings 2013c) and the Centers for Disease Control and Prevention’s “Guide to Community Preventive Services” (Epidemiology Program Office 2002), a set of investment priorities could be developed that covers all the determinants of health. It would be as broad as the global evidence allows but would be tailored to a community’s strengths and weaknesses. Options for improving behaviors such as smoking would not be as highly suggested for places already doing well in this factor. The packages would not be prescriptive, but merely a menu of the investments likely to produce the best health outcome improvement. Where possible, options would include the strength of public- and private-sector policies beyond dollar investment in specific programs.

As with most initiatives, the initial set of policy packages would not be the ideal set, for a variety of reasons. We still have incomplete evidence of effectiveness of different programs and policies, particularly regarding cost-effectiveness beyond effectiveness itself. It is not clear which level of investment in a particular determinant or factor is optimal, or where diminishing return sets in and when resources should be moved to other factors. We are limited in evidence for different types of outcomes, particularly disparity reduction.

However, we should not let the perfect be the enemy of the good. A beginning set would be extremely helpful to guide the work in many places where discussions are taking place regarding improving the health of their communities. It would help ensure that local passion and commitment is channeled in an evidence-based direction while preserving autonomy and sensitivity to community preferences.

**Next Steps**

The approach we outline here is a departure from much current policy and management practice. But new models are needed to drive action—not just thinking—to address the enormous challenge of improving population health. We believe that a community business model that involves all sectors in partnership can function as a road map. We recommend the following next steps to do so.

First, public- and private-sector policymakers should stimulate conversations and efforts to better understand the specific opportunities for improvement within each segment of society. As in the Health-Partners example, care should be taken to identify those improvement opportunities that fall within the sectors’ primary control; those not under primary control should move to multisectoral partnerships.

Policymakers should then use these perspectives to make the business case for population health improvement and the resources and policies each type of community actor requires through its national networks and directly to leaders in each sector. For example, healthcare leaders could work with the National Quality Forum and the Institute for Healthcare Improvement to improve outcomes in healthcare, a determinant that they directly control, while reducing total expenditures. They must think beyond healthcare to health and to achieving it through broad community partnerships.

Similarly, business leaders could turn to the Business Roundtable or local chambers of commerce to develop efforts to improve workforce wellness, productivity, and health directly while looking beyond...
their workforces for ways in which their communities can be healthier. Public health leaders might focus on national public health associations as well as the National Association of Counties (because local public health agencies are often located within the county structure) to find more effective and efficient ways to provide essential public health services while making information available to and engaging partners in the private and public sectors. United Way Worldwide could continue to work toward ensuring that its national vision is increasingly recognized at local levels and highlight examples where local United Way agencies are providing multisectoral leadership.

Finally, foundations and government should collaborate to develop a catalogue of cost-effective health-in-all policies in sectors beyond health, which could be reinforced by financial or regulatory incentives discussed earlier. They should also seek out and disseminate effective examples of work currently being done in communities, as the Robert Wood Johnson Roadmaps to Health Prize (County Health Rankings 2013b) and the California Endowment (2013) Building Healthy Communities programs are doing. Benchmarks of the minimal and optimal cross-sectoral investments should be developed and promoted.

While we applaud continuing calls to improve health and reduce disparities, progress will require a much more robust incentive and business model strategy than has been the practice to date. Our hope is that the ideas presented here will help to catalyze a collective multisectoral response to this critical social and economic challenge.

Acknowledgments
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References


Population Health Management: The Intersection of Concept and Reality

Christopher Dadlez, FACHE

The feature articles in this issue of Frontiers offer different philosophies and approaches to meeting the Triple Aim of the Institute for Healthcare Improvement. Zenty, Bieber, and Hammack document a local and granular means of creating targeted accountable care organizations (ACOs) to make Triple Aim inroads toward ensuring the health of the discrete populations. Their “build on success” approach offers practical insights on developing mission, governance, and analytics to guide the creation of clinically oriented population health programs, in contrast to the “total population health” ambitions of Kindig and Isham.

Over the past five years, Saint Francis Care has been working on many of the same issues and initiatives mentioned in both of the feature articles, from population health management to clinical integration to aligning clinical and social services to developing accountable care models for several payers, including our own hospital, Medicare, and private insurers. Along the way, we have encountered the intersection of concept and reality and forged a path forward.

Saint Francis Care

Saint Francis Care, an integrated healthcare delivery system in central Connecticut, is the largest independent Catholic healthcare provider in New England. Our services cover the spectrum of patient needs, including community-based preventive and primary care, specialty care, high-acuity tertiary care, and post-acute care. Many of these services are provided through partnerships, affiliations, and relationships developed with other exceptional providers. Overall, Saint Francis Care provides access to almost 900 affiliated physicians, three hospital campuses, 12 satellite medical offices, and a variety of community clinics.

Christopher Dadlez, FACHE, is president and CEO of Saint Francis Care Inc. in Hartford, Connecticut.
With 617 licensed beds and 65 bassinets, the flagship of Saint Francis Care is Saint Francis Hospital and Medical Center in Hartford. The hospital expanded in 2011 with the addition of the ten-story John T. O’Connell Tower, featuring a state-of-the-art surgical pavilion, dedicated space for the Connecticut Joint Replacement Institute (CJRI), and an expanded emergency department (ED) with 70 treatment areas and a rooftop helipad for the LIFESTAR helicopter. In addition to CJRI, Saint Francis offers centers of excellence in cancer care, heart and vascular disease services, rehabilitation medicine, and women and infants’ services. Indeed, Saint Francis opened its 24,500-square-foot Comprehensive Women’s Health Center in November 2013, a site that combines breast health, heart health, gynecologic care, and integrative medicine services for women.

Our integrated healthcare delivery system also includes the Mount Sinai Rehabilitation Hospital, Connecticut’s only free-standing acute care rehabilitation hospital, which shares space on campus with our Mandell Center for Multiple Sclerosis. In addition, Johnson Memorial Medical Center signed an affiliation agreement with Saint Francis in 2012. The central structure for our ACO is Saint Francis HealthCare Partners, a 50:50 physician–hospital partnership that provides clinical integration and comprehensive administrative support to 700 physicians in more than 200 practices.

**A Vision for Value**

While we have long recognized that a well-articulated strategy and aligned providers—not bricks and mortar—are the foundation for advancing healthcare delivery. Back in 2009, Saint Francis Care embarked on a unique strategic planning process with an eye toward shaping an organization that would be well positioned to thrive in a changing and uncertain healthcare environment. The core working group was small but represented a diverse mix of administrators, physicians, and board members. *The Innovator’s Prescription: A Disruptive Solution for Healthcare*, by Christensen, Grossman, and Hwang (2008), was assigned reading for this group.

From this work, we generated a compelling vision: BestCare for a Lifetime. The focus was on delivering value for patients across the continuum of care. In other words—and this was a major shift—we explicitly emphasized the importance of what happens outside the hospital. We were setting the stage to work toward accountable care and saw innovation and a coordinated infrastructure as key drivers.

To achieve the vision of BestCare for a Lifetime, our strategic plan called for a new organizational structure, with ten service lines that would set their sights to include the pre-acute/preventive, hospital, and post-acute environments: Behavioral Health, Cardiovascular, CJRI, Emergency Medicine, Medicine, Oncology, Physical Medicine and Rehabilitation, Primary Care, Surgery, and Women and Infants. The work of these service lines is facilitated by robust support platforms that include Business, Clinical Services, and Facilities, as well as our award-winning Innovation + Learning Center. As we had no illusions that a service line model of care was the only key to achieving our vision, the strategic plan also called for becoming a value provider and developing a geographic presence.

By adopting the definition of value as outcomes that matter to patients per dollars spent, we leveraged our new organizational structure to focus on the needs of our patients and communities across the continuum of care. To support our
The ACO committee structure proved to be a valuable tool in closing the knowledge gap, at least for those most actively involved.

Increased emphasis on value, two dozen physicians and executives from Saint Francis have attended Harvard Business School courses presented by professors Michael Porter and Robert Kaplan to engage directly in the latest thinking on value measurement. Armed with a common vocabulary and shared understanding, these leaders were able to reach consensus on a standard Saint Francis approach to not only defining value but also defining outcomes that matter, engaging patients, defining cost, mapping processes, and prioritizing value-oriented projects. We now have a clear mandate for value-driven design across the enterprise, with an aim to deliver value for patients, providers, and payers.

While focusing on value is the key to staying ahead of the curve in an accountable care world, the advent of funding based on total cost of care and annual budgets requires a coherent geographic presence. In our very competitive marketplace, we have pursued a clinically integrated network approach to avoid the pitfalls and expense of vertical integration. Our alignment strategy is based on providing as much infrastructure support in as many areas as possible, short of an outright acquisition of the practices. By providing infrastructure support, credentialing, contracting, care coordination, and information technology—as well as requiring compliance with our clinical integration approach—we were able to develop our advanced Clinical Integrated Network.

Involving the Board and Engaging Physicians

As many population health initiatives and activities—even those focused on clinical aspects—are relatively new for most healthcare systems, it is absolutely critical to involve the board of directors and engage physicians as equal partners in the transition from volume to value. Early on in our process of developing our population health strategy, we used our annual Board and Leadership Summit to provide context and solicit guidance.

The outcome of that approach was that our board of directors endorsed the recommendation to position Saint Francis HealthCare Partners as the foundation for ACO development, again emphasizing the importance of what happens in physician offices and communities (i.e., not just the hospital). Numerous educational sessions were developed and deployed for the physician community. They were offered at several sites, and physicians were invited to attend at a site of their choice. Our initial aim was to answer as many questions as possible regarding the Affordable Care Act, ACO development, population health, physician requirements, patient engagement, and shared savings.

In terms of governance, we initially created ten ACO committees. More than 170 physicians signed up to participate, with most expressing interest in the Committee on Finance and Shared Savings. The ACO committee structure proved to be a valuable tool in closing the knowledge gap, at least for those most actively involved. After two years in operation, the ACO committees were merged with the eight physician–hospital organization committees, as there was no need for them to operate in parallel universes.

Today, we have 12 committees, all meeting regularly and generating significant physician feedback. That said, we still have a significant knowledge gap. Although our providers have all received information on ACOs and population health management,
many express confusion or a desire to gain a more thorough understanding. Accordingly, we are working to develop the form and content of appropriately tailored population health education for our providers as well as for our patients and the community.

**Accountable Care: Learning While Doing**

Much like Zenty, Bieber, and Hammack, we have piloted several accountable care opportunities, all treated as disciplined experiments with the intent of refining our capabilities in preparation for assuming downside risk:

- **Employee ACO.** In an effort to both manage our own spending as a self-insured employer and create a model of what we could do for other large employers, we contracted with Saint Francis HealthCare Partners to create an employee ACO. The principles of accountable care were implemented for 6,500 members, and the combination of plan design changes, care coordination interventions, and wellness incentives yielded a tangible reduction in our cost trend experience.

- **Medicare Shared Savings Program ACO.** In January 2013, Saint Francis HealthCare Partners was awarded a Centers for Medicare & Medicaid Services (CMS) ACO contract covering 20,000 lives. As data from CMS has been fed into our claims data warehouse, we have developed new analytic competencies. In addition, we have embedded care coordinators in our large physician practices and used a public utility model to provide care coordination from a central source for our smaller practices.

- **Commercial ACOs.** Private payers quickly got up to speed with accountable care payment mechanisms. In the past year, Saint Francis HealthCare Partners entered into two commercial ACO arrangements, covering another 55,000 lives. Both of these commercial agreements have similar structures based on a total cost of care (i.e., population health management) model.

- **Bundles.** CJRI is a leading-edge program on a number of levels; for example, it offered one of the first bundled products for hip or knee replacement in the United States. These joint bundles include payment for surgeons, anesthesiologists, and the hospital. An additional postsurgical warranty rider is also available.

- **Care coordination.** Saint Francis employs a structured care coordination model, with staffing based on national norms. Covered lives are stratified by health risk, and health coaches are assigned to the highest-risk patients for interventions. Mechanisms to address gaps in care, transitions in care, ED follow-up, and discharge appointment follow-up are all part of the program.

**Population Health (Not Just Healthcare)**

Operating as a Medicare Shared Savings Program ACO, building an employee ACO, working with private payers to develop new commercial ACO arrangements, offering bundles to the marketplace, and ramping up an enterprise-wide care coordination program all depend on a population health management infrastructure that continues to require significant investment in personnel and information technology. We have successfully built such an infrastructure, but we know our work is not nearly done. A focus on clinical care and clinical integration is
insufficient as we move to an environment in which healthcare providers are accountable for broadly defined health outcomes. In other words, it’s not just healthcare. In the context of population health, the big picture includes behavioral and social determinants of health. The key question is whether—and how—healthcare systems can influence these determinants or integrate community and social services that can.

In highlighting the total population health approach, Kindig and Isham also shed some light on why current approaches focus on clinical health for populations. They refer to the definition of population health used by the Institute of Medicine’s Roundtable on Population Health Improvement: “The health outcomes of a group of individuals, including the distribution of such outcomes within the group.” Given that scope, no one should be surprised or disappointed that healthcare organizations would focus on clinical care. Not only is it their expertise, but the emphasis on outcomes seems to support a clinical approach as well. However, clinical care improvement is only part of the original concept developed by Kindig and Stoddart (2003), which offers a broader and deeper view of population health as encompassing “the definition and measurement of health outcomes and their distribution, the patterns of determinants that influence such outcomes, and the policies that influence the optimal balance of determinants.”

It is this expanded view that animates the total population health concept offered by Kindig and Isham. Indeed, perhaps most compelling in their article is the statement that “the contribution of healthcare to health is modest—only 20 percent—a fact that many healthcare leaders may find surprising.” Stunning may be the better word choice here, particularly because other research suggests that 20 percent might be a generous estimate. The other 80 percent of healthcare determinants are identified as health behaviors (30 percent), social and economic factors (40 percent), and physical environment (10 percent)—items outside the control of traditional healthcare delivery systems. This finding challenges the paradigm that has tipped the balance toward sick care instead of healthcare.

That many of our patients struggle with behavioral and social determinants of health is not news. But what is the extent to which healthcare organizations can and should productively partner with patients, communities, and community-based support/social services organizations to address these determinants and improve outcomes? Different healthcare organizations will have different answers to this question. At Saint Francis, we have been working hard to engage all those partners when appropriate. (We say “when appropriate” because not all patients need social services. But for those who do, these services are the rate-limiting step for some patients. In other words, if people cannot take care of their lives, they will have a hard time taking care of their health.)

We have been learning real-world lessons for more than two years as our Emergency Medicine and Primary Care service lines work with our Innovation + Learning Center and Saint Francis HealthCare Partners to improve emergency medicine–primary care coordination. Much of this work has focused attention on the relatively small number of patients who account for a disproportionately large share of ED visits. We developed a robust ED registry that helped us move from
lamenting high utilization to getting to know our high utilizers. We are now making concerted efforts to integrate clinical services, to focus on care coordination—which includes coordinating the coordinators—and to partner with community and governmental organizations in building a network of care that historically would have been considered outside the purview of a hospital, much less healthcare in general. This is a step toward the community health business model promoted by Kindig and Isham.

Accountable Care Communities

Some of our efforts reflect a move toward an accountable care community (ACC) model that bridges clinical and community settings to address both the medical and the social needs of high-risk, high-cost, or vulnerable patients in an integrated manner consistent with the Triple Aim. In fact, we partnered with Community Solutions and the Department of Mental Health and Addiction Services in Connecticut—as well as with NuHealth, the Health and Welfare Council of Long Island (NY), and Health Leads on Long Island—to submit a proposal to CMS’s Center for Medicare & Medicaid Innovation (CMMI) for developing ACCs in Hartford County and Nassau County.

Accountable care community is a term that was first employed by the Austen Bio-Innovation Institute in Akron (ABIA) to describe a multisector, community-based collaborative effort to transform healthcare in Northeast Ohio. The ABIA (2012) defines an ACC as

*A collaborative, integrated, and measurable strategy that emphasizes shared responsibility for the health of the community, including health promotion and disease prevention,*

access to quality services, and healthcare delivery. . . . It builds on initiatives to encompass not only the area’s medical care providers, but also the public health system and community stakeholders whose work, taken together, spans the spectrum of the determinants of health.

The National Governors Association (2013) suggests that ACCs “take the concept of medical homes and accountable care organizations one step further by fostering collaborations borne of shared responsibility among clinical and community sector participants to reform health systems in particular localities.” Kindig and Isham mention ACCs as one model with the potential for addressing total population health.

The Integrator Role

Kindig and Isham appropriately highlight the importance of an “integrator,” an organization that will pull together the various clinical and social services. Whether we like it or not, given our community presence, hospitals and healthcare organizations will be at the center of these population health dynamics. And even if we account for only 20 percent of health outcomes, we may always be expected by our communities and by business and government sectors to provide central leadership and do the population health “heavy lifting.” That expectation will require that we play a role in both clinical and social initiatives. Finding the appropriate mix between the two will be a challenge for any provider. The HealthPartners example featured by Kindig and Isham and similar initiatives will be rare examples indeed unless and until payment models support this kind of work. But it is possible. As a point of reference, the actuarial analysis conducted for our CMMI proposal forecasted a reduction in Medicaid spending.
Achieving alignment will require a formal yet dynamic framework to guide stakeholder engagement and shared decision making at the community level.

Hartford, provided funding for the City of Hartford’s Community Health Needs Assessment report. Scheduled for publication every three years, the first edition was released in March 2012 by the city’s Department of Health and Human Services. This study examines the social determinants of health—income, shelter, education, access to nutritious foods, community norms, and cohesion—that affect the health of Hartford residents. The key will be to move from funding the documentation of needs to addressing them in a coherent and sustainable manner.

**Conclusion**

We may all agree that addressing the social determinants of health is the critical path toward “total population health” and, ultimately, health equity. But we must also acknowledge that moving from concept to real-world action will require significant start-up investment that cannot come from the providers alone. Achieving this complex transformation of care at the population level requires that we align our payment systems, our healthcare delivery systems, and our community support systems. Achieving alignment will require a formal yet dynamic framework to guide stakeholder engagement and shared decision making at the community level.

**Acknowledgments**

The work ahead requires leaders to gather the collective minds of the thought leaders around us and together create the foundation to advance the delivery of healthcare. I would like to acknowledge the Saint Francis Care thought leaders who have contributed their expertise to this commentary: Gregory Makoul, PhD; Danyal Ibrahim, MD; Suren Khera, MD; Adam Silverman, MD; Jess Kupec; and James Schepker.

**References**


Population Health Management and the Journey to Medical Home Certification in a Rural Community

John R. Gardner, FACHE

Why Adopt Population Health Management?
Population health management has been the focus of many studies and articles as a critical strategy for success as the healthcare delivery system changes in response to government regulations and insurance industry shifts. It also is frequently cited as a tool to manage costs. Zenty and Bieber’s feature article discusses how University Hospitals Health System’s (UH) population health management initiative evolved through the experience of its various accountable care organizations (ACOs), which were formed to address the rising costs of their self-insured plans.

In the other feature article for this issue, Kindig and Isham discuss the need to improve the health of our communities and close the lag in health outcomes across the United States compared to most developed countries. I believe their message that the challenge of population health improvement cannot be the sole responsibility of the healthcare industry is critical to understanding how we move forward.

A recent article in the *Journal of the American Medical Association*, by Friedberg and colleagues (2014), complicates this discussion, however. Those authors suggest that the care offered in a patient-centered medical home (PCMH) environment, which is designed to coordinate resources to improve patient care, offers little benefit to the outcomes experienced by the patient or in reducing the cost of care. One might conclude from Friedberg and colleagues’ findings that if a PCMH or another population health management tool produces no cost management or patient outcome benefits, why invest in the effort?
Until we could get our departments to communicate on a proactive basis and be engaged in the total patient experience, we would fail in our efforts to provide the optimal patient experience and care.

These authors directly or indirectly link population health management to the Triple Aim as articulated by the Institute for Healthcare Improvement (IHI): improvement of individuals’ experience of care, improvement of the health of populations, and reduction of per capita cost of care for populations. Of these, in my opinion, that improvement of the individual experience of care could be the most significant factor influencing the achievement of health improvement and, eventually, cost management.

The Perspective of a Critical Access Hospital/Rural Health Clinic
Yuma District Hospital and Clinics (YDHC) consists of a 12-bed critical access hospital and two rural health clinics offering family medicine, a specialty clinic that brings a variety of medical and surgical specialists to the community throughout the month, and a PhD-degreed psychologist and licensed professional counselor. We offer post-acute care through our swing-bed program and a home health agency. Our ten primary care providers are employees of the organization. Consider us a micro-integrated healthcare delivery system serving a population of approximately 14,000 people spread across a wide geographic area.

In 2008, YDHC was invited to participate in an initiative led by the Commonwealth Fund, Qualis Health, and the MacColl Center for Health Care Innovation at the Group Health Research Institute. The objective of the initiative was to develop and demonstrate a sustainable model to transform primary care safety net practices into PCMHs, thereby achieving the IHI Triple Aim goals. (For more detail about the initiative, refer to www.safetynetmedicalhome.org.) We eagerly agreed to participate, with the simple thought that this would be a tool to improve patient care in our rural health clinic. The timing seemed right: We had recently moved into a newly constructed replacement facility to house our hospital and our main clinic, and we were midway through the rebuilding of our medical staff. It was our feeling that this would not be a long journey and that the care provided in our facilities was already close to that of a medical home environment. It did not take long for us to realize that we were just beginning.

At the same time as we were moving forward with this initiative, we were faced with a population of patients who believed that their experience of care was not satisfactory. Our HCAHPS (Hospital Consumer Assessment of Healthcare Providers and Systems) score for overall satisfaction was 66.7 percent; waiting times for clinic appointments were clearly not acceptable to the members of our community, from whom we heard frequent complaints.

During our discovery process to understand PCMHs and population health management, we had the opportunity to visit Group Health Cooperative, in Seattle, Washington. Its leadership’s commitment to creating the best possible patient experience was demonstrated in how it applies the Lean Six Sigma process. We left Group Health with the impression that patients who have a great experience when receiving care and become engaged in their care management experience an improvement in health, all while the organization better manages the cost of that care.

Upon recommendation of management, Yuma District Hospital’s board of
directors endorsed patient-centered care and the PCMH model as the key strategy for the organization’s population health management efforts. The decision to pursue a model of care that focuses on managing the patient experience proved integral to the organization’s mission, which is as follows: “Yuma District Hospital and Clinics is dedicated to enhancing the health of all whom we serve and providing care that exceeds industry quality standards.” Unlike UH, at YDHC, this direction was not established as an economic or survival tactic but one by which to provide better and safer care to our community.

The question we had to ask ourselves was, “What will it take to give the patient the best experience?” We certainly had a long list of complaints, many of which centered on timely access, communication, and continuity issues. Until we could effectively address these concerns, the dream of having an engaged patient population that we could navigate to improved health was a distant one.

The Kindig and Isham article states that “no single entity can be held accountable for achieving improved outcomes.” What we quickly learned, before we could even think of looking outside of our organization for partnerships to improve care, was that we needed to look within our organization and our internal “partnerships.” Our organization consists of a dedicated group of caregivers who are committed to giving the best possible care. Unfortunately, there was very little interaction among departments to jointly determine the best pathways to serving our patients. Until we could get our departments to communicate on a proactive basis and be engaged in the total patient experience, we would fail in our efforts to provide the optimal patient experience and care.

In our visit to Group Health Cooperative, we observed how that organization incorporated Lean Six Sigma as a tool to develop processes that engaged all areas of patient care and services to improve patient engagement and health. Group Health uses the methodology successfully on a continuous basis to improve processes and outcomes. Following its example, we brought in an outside resource to help guide us through our own Lean Six Sigma process.

We created a PCMH Lean Six Sigma committee consisting of representatives from all departments of the hospital and clinic. We mapped how patients flowed through the organization, explaining internal department processes and the rationale for those processes. This exercise was enlightening for all areas, as they gained an understanding of what and why activities occurred within each department, creating opportunities for departments to identify solutions to make process improvements and develop methods to support each area. Simultaneously, as we went live with a new electronic medical record (EMR), we could identify opportunities to improve interfaces between the various applications within the EHR.

Did we succeed at creating an engaged organization? Exhibit 1 compares patients’ responses to the Clinician and Group CAHPS survey conducted in 2010 with results collected in December 2013.

These data suggest that we have succeeded at internal engagement, producing a better connection between our patient population and our organization and those who care for the members of that population. As we move forward with continual refinements to our PCMH, we believe that it will be easier than in the past to engage our patients in a manner of care that is different
Quality Outcomes of Population Health Management

As we addressed our internal engagement issues, we proceeded with implementing a narrow population health management effort focused on patients with diabetes, hypertension, or a combination of both.

With the support of two patient navigators, our clinic began a targeted effort to improve the health of these population groups. Existing and newly diagnosed patients were referred to the navigators for counseling, education, and support. The navigators tracked the patients, providing reminder communications for follow-up visits when necessary. As shown in Exhibit 2, the management of our diabetic patients has improved dramatically over a seven-month period. These data demonstrate that our patients are accessing the system on a more frequent basis and receiving the appropriate testing to help manage their diabetes.

We were uncertain of whether our patient population would embrace the concept of a nonphysician providing support to improve their health. The data in Exhibit 2 demonstrate that we achieved patient engagement to improved health. Our challenge will be to expand to additional patient populations that can benefit from management services.

What Is Next?

As indicated at the beginning of this commentary, the premise of creating a PCMH environment with our population was to create a better patient experience. We have made great strides in that quest, and we have also improved the health of certain populations that we serve. Our organization is now at a point where participating in an ACO is not unreasonable to consider.

With the implementation of the Affordable Care Act and the expansion of the Medicaid program in Colorado, the state has created regional care collaborative organizations (RCCOs). Similar to ACOs, the RCCOs apply data analytics, provider engagement, and incentive structures to manage the Medicaid population. The success of this program to manage costs will be a significant piece of the funding of Colorado’s Medicaid expansion when the federal support ends.
We have contracted with the RCCO for our region to serve the Medicaid clients residing within our service area. Our invitation to contract with the RCCO was driven by our efforts to successfully implement the PCMH model. At this point, this arrangement does not include risk. Reimbursement is provided on a fee-for-service basis from the Colorado Department of Health Care Policy and Financing. The RCCO provides incentive payments for cost management; reduction of emergency department utilization; and reduction of high-cost, low-value imaging procedures. Additionally, as a PCMH, we receive a modest per enrollee per month payment to help cover the costs of our management efforts.

Our relationship with the RCCO has led us to partner with North Colorado Health Alliance in a new community health business model similar to that discussed by Kindig and Isham. The partnership allows us to engage the Alliance in the care of the RCCO Medicaid clients. As the Alliance defines its role, “Our ongoing integration of health and other community services is the outcome of this widening understanding of health as a single puzzle with many interlocking and equally indispensable pieces” (North Colorado Health Alliance 2014). Working with the RCCO, the Alliance has demonstrated that the integration of social services, behavioral health services, housing, transportation, and school systems with traditional healthcare models creates a healthier community.

Our goal is to apply what we learn from serving our RCCO Medicaid clients to all of our patients. We found that, when approached, representatives from the other
sectors mentioned earlier are eager to be engaged in improving the health of the community, making our goal all the more attainable.

**Conclusion**

Population health management is a powerful tool for improving the health of our communities and has the potential to help us control the resources used to care for our patients. As health systems embrace population health management—while keeping an eye on the evolving reimbursement system—they need to be certain that their organizations are prepared for the challenges of care management. As we experienced, hospitals, clinics, and health systems need to think of patient care in the context of an integrated process rather than individual departmental silos. If an organization can get past these basic hurdles, it becomes easier to achieve the Triple Aim and help the organization thrive in the context of an ACO.

Integrated care processes contribute to an enhanced patient experience. It follows, then, that a quality patient experience contributes to patients’ willingness to engage in the activities that make up population health management.

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The (Fairly Straightforward) Business Case for Health

Diane P. Holder

Compared to residents of other high-income nations, Americans die younger and are less healthy at every age but incur significantly higher costs per person on healthcare (NRC 2013). Poor health has an impact well beyond expenditures on actual medical services, including costs of $576 billion per year in the United States for absence from work and lost productivity (Japsen 2012). In fact, this pattern of higher cost and lower value has many implications for US health and the healthcare delivery system, including jeopardizing our future workforce. The canary in the coal mine is in trouble when three out of four military recruits between the ages of 17 and 24 are ineligible for military service, often due to obesity (21 percent of rejected recruits), and when children and adolescents are, on average, less healthy than their peers in other countries (Secretary’s Advisory Committee 2010). Improving the overall health status of the population is a complex, daunting task, but one that is essential to ensure that the United States remains a leading force in the global economy. The business case for better health is very strong.

Broad Versus Narrow Healthcare Delivery Focus

The feature articles in this issue of Frontiers provide an interesting juxtaposition regarding how to define population health and methods to improve outcomes. Kindig and Isham offer a broad focus and posit that medical care has an important but limited impact on health status. I agree. They argue that unless the country addresses the broad range of health determinants—including not just medical care (which, they note, accounts for only 20 percent of health status) but also health behaviors and the social and physical environments—US health indices will not improve enough to stave off a crisis.
The United States is an outlier among Organisation for Economic Co-operation and Development (OECD) countries in how it balances medical and social expenditures. Most OECD nations, including the United States, spend roughly a third of their gross domestic product on a combination of social and health services. However, whereas for most nations the ratio is typically 2:1 in favor of social expenditure, the US social-to-health services ratio is less than 1:1 (Bradley et al. 2011).

This ratio is problematic because “social” expenditures are powerful influences that appear to positively affect national health outcomes. If the United States were to reduce wasteful, inefficient, and ineffective treatments—an estimated 30 percent of current spending (NRC 2010)—some of those dollars could be redirected to support other types of programs and reduce the illness burden in the nation.

Kindig and Isham suggest that clinical delivery systems will need to step outside of their traditional business model and view the health status impacts through a broader lens. This is an important concept, whether we talk about broad-based community health business plans or “population health” interventions created by delivery systems to manage subpopulations. Historically, healthcare organizations have had little incentive to focus beyond individual medical services on the more broad health status of the population. As the United States continues to move away from a fee-for-service (FFS) payment method to models such as capitation, clinical delivery systems will redesign services to include a greater emphasis on those factors that affect health status other than traditional medical care. This responsibility for clinical and cost outcomes will align healthcare delivery system incentives more closely with community incentives for a healthy workforce and a healthy community. This realignment in turn may help us avoid the healthcare version of what economists refer to as the “tragedy of the commons,” whereby a shared resource is sacrificed for the individual interests of a broad range of stakeholders, leading to everyone’s long-term disadvantage (Fadul 2009).

**ACOs as a Vehicle for Change**

The Affordable Care Act (ACA) provides new momentum for change. In addition to encouraging the growth of accountable care organizations (ACOs) and other payment pilots to better align clinical delivery and financing models, the federal Health Insurance Marketplace and state-based exchanges facilitate increased access to subsidized health insurance coverage. As the Marketplace evolves and insurance and provider competition increase, there will be additional momentum for change. Payors are creating smaller networks of select providers offering volume steerage to the provider in exchange for lower rates or better cost management. “Narrow networks,” which exclude a percentage of healthcare providers in a given region, represent 70 percent of the insurance plans offered through the Health Insurance Marketplace for the January 2014 enrollment period (McKinsey Center 2013).

Currently, most healthcare organizations are intensely examining how to position themselves and navigate the volume-to-value journey as regulations change. Of particular note is the shift in Medicare payments. In 2013, the second
year of Medicare’s quality incentive program, more hospitals received penalties than did those that earned bonuses (Rau 2013). To reverse that trend, outcome-based payments that emphasize a reduction in preventable readmissions require a significant redesign related to follow-up care and proactive management of chronic illness.

Another dynamic related to the value-based reimbursement model is consolidation. Significant merger activity is occurring among hospitals as they confront revenue compression and the need to build infrastructure to address the cost and quality requirements of the ACA. In the third quarter of 2013, 20 percent more hospital mergers took place than in the same period of 2012, and the pace is expected to continue in 2014 (Casper 2014). Also evident is an increase in the number of providers developing payer functionality (Advisory Board Company 2012) and the number of payers acquiring providers (Vesely 2012). At the center of these activities is an industry attempting to protect itself while it prepares for greater challenges. Ending the FFS payment model is championed by many, including the National Commission on Physician Payment Reform, whose 2013 report calls for an end to FFS within seven years and provides a five-year blueprint for transitioning to a blended payment system (National Commission 2013).

For providers that do not operate their own health plan, ACO development is one method by which to experiment with new payment models. In their feature article, Zenty, Bieber, and Hammack provide an interesting example of how one organization is tackling the developmental requirements. Their work focuses on clinical transformation and governance and incorporates critical design elements into the overall approach. For example, they demonstrate that using strategically located, after-hours telemedicine kiosks for pediatric patients helps reduce barriers to care and provides consumers with less expensive alternatives to in-person or emergency room services.

In the context of the Kindig–Isham paradigm, which requires a consortium of community partners with the goal of affecting the broader social determinants of health, ACOs will be insufficient to achieve that goal. Nonetheless, I argue that although ACOs are not the “end game,” the accountable care movement can be a strategic vehicle to facilitate broad change. ACOs can serve as a laboratory to aid clinical delivery systems in developing the infrastructure needed to improve efficiency and effectiveness and experiment with risk management. As communities begin to address health needs more holistically, clinical systems will be better informed partners with more skills and knowledge, gleaned in part from the effort required to align clinical and financial incentives and engage diverse stakeholders within their organizations.

**ACOs as Laboratories for Change Management**

An ACO, especially one that involves a combination of hospital leaders, various types of physicians, and community support organizations, must bring together stakeholders who do not necessarily have a common language, a shared vision, or fully aligned incentives. An ACO is responsible for improving clinical outcomes within a defined budget, and similar to other risk-bearing entities, it prioritizes resources to meet objectives. Resources will be limited, and debate, conflict, and
In some special needs populations, the “80/20” rule does not apply; rather, 1 percent of the population may incur 30 percent of the cost.

The risk profile of subpopulations varies significantly. Internal UPMC Health Plan analyses suggest that, in some special needs populations, the “80/20” rule does not apply; rather, 1 percent of the population may incur 30 percent of the cost. An estimated 8 percent of all healthcare expenditures is for general prevention efforts (Miller et al. 2008). The historical underfunding of primary care, minimal emphasis on early intervention and chronic care management, and longstanding reliance on hospital and emergency services result from our payment models. Although these aspects of care are changing to some extent, in most communities large gaps exist across the country in healthcare service capacity and workforce preparedness to tackle the requirement of chronic disease prevention and management, which accounts for 75 percent of healthcare expenditures (Lancet 2009).

The Role of Integrators
To succeed at the broad task of building a community-level business plan that mitigates health risk requires forming a new ecosystem. This new system in turn requires leadership to build and sustain change. Kindig and Isham suggest an “integrator” to assist with this change management process. For an integrator to work, it needs to be a trusted, empowered entity.

In similar fashion, health systems must develop a new ecosystem to transform. They have many elements on which to build to help make a shift to population risk management, but many lack the expertise, core structures, and technology to scale programs beyond a pilot phase. They, too, may need an integrator function to address many of the same complex dynamics. Integrated delivery systems that have both clinical and payer operations, such as UPMC, often use an integrated team in the integrator role, drawing expertise from their clinical and payer arms in order to drive change. ACOs need to create similar capabilities to manage clinical and cost outcomes. They require leadership to understand what drives costs and quality and what provides high versus low value. They rely on robust data analytics and technology to support clinical transformation and an opportunity to modify incentives for providers and patients.

The “Block of Ice” Approach to Change Management
As of June 2013, approximately 500 ACOs were operational nationwide, more than double the number in June 2012 (Petersen, Muhlestein, and Gardner 2013). About half are led by physician organizations and the rest by hospital systems, with a few spearheaded by other types of
organizations, including insurance companies (Muhlestein 2013). Results to date have been mixed, with most ACOs seeing reduced cost trends but not yet earning partial or full bonus payments. It is still early in this experiment, and considering ACOs vary widely in scope and approach (Evans 2014), it is difficult to say with certainty how successful they will be. One of the essential ingredients for a successful ACO is the ability to utilize change management methods to reorganize the clinical delivery model to manage at-risk populations.

ACOs share a common agenda: to change healthcare delivery models to improve the clinical and cost outcomes. But change is hard, and change management is a skill unto itself. One of the earliest change management theorists, Kurt Lewin (1947), a physicist and social scientist, offered a simple three-stage model: unfreeze, change, refreeze. His theories have since been expanded, but the basics remain relevant. Lewin used the following analogy: An organization is like a block of ice that you want to reshape into a cone of ice. How do you get from cube to cone? What is compelling enough to begin to unfreeze the block? Usually it takes strong evidence—significant revenue reductions, loss of margin, perhaps a new competitor. As the ice begins to melt, it is possible to begin to mold the structure into a new form.

But what should that new form be for healthcare organizations? Hwang and Christensen (2008) suggest that healthcare can follow the same path that other industries have taken to improve value. Through disruption innovation, organizations can allow work to be redistributed from higher- to lower-cost personnel where possible, and they can systematically evaluate how to maximize each part of the value chain to improve quality and cost outcomes.

The new models require personnel with skills for understanding how to motivate people to be more proactive in managing their own health. Thus far in healthcare, the patient has been underestimated in the equation, but the consumer engagement movement and meaningful patient activation strategies are now gaining attention (Mittler et al. 2013). New technologies can be used to reduce barriers to care and to assist people in mitigating health risks. For example, technology-assisted support through mobile devices means patients can carry their “medical home” in their pocket. For people with chronic conditions, patient activation and supported self-management are critical. The patient and family need to be active members of the team that fits into the new ecosystem of aligned incentives.

UPMC’s Experience

At UPMC, we have been evolving our “block of ice” over decades, gradually unfreezing from a centralized academic center with a hospital-centric environment and molding into a large, top-ranked clinical delivery network, an international and commercial division, and a diverse set of health plans now serving more than 2 million members. Our partnership with the University of Pittsburgh, ranked fifth in National Institutes of Health funding of all institutions in the nation, has been essential to support UPMC’s clinical, training, and research missions. As an integrated system, we have had a ready-made laboratory in which to learn how to align financial and clinical strategies and create the infrastructure and technology to support new approaches to improve
As a provider-owned health plan, we are able to translate the strategies we used with our own employees to the packages we offer to the employers in our service area.
different populations we serve. One was developed to assist those with both a serious mental illness, such as schizophrenia or bipolar disorder, and at least one significant comorbid condition, such as diabetes or congestive heart failure.

Then, with a diverse set of partners, an integrated program was created, and several important elements allowed this program to demonstrate results: a whole-person philosophy of care; predictive and prescriptive analytics developed to identify those at risk for medical or psychiatric hospitalization and lack of appropriate preventative and routine care; and an integrated, coordinated care plan to address medical, psychiatric, and psychosocial needs. This program significantly reduced both medical and psychiatric readmission rates and improved medication compliance and other preventive screening rates (Kim et al. 2012).

Similar to the HealthPartners case discussed by Kindig and I sham, UPMC collaborates with many organizations, but partnering with our local city schools is one of our most significant initiatives. UPMC took a major step in 2007 with Pittsburgh Public Schools to create a program called the Pittsburgh Promise. UPMC has committed to providing $100 million over a ten-year period to guarantee payment for college tuition at a two- or four-year Pennsylvania institution for any young person who graduates from a city public high school and is admitted to a credentialed program. The oversight committee for the Pittsburgh Promise includes community business leaders, healthcare providers, foundations, human services agencies, and educators. The conditions of the grant require the dollars to be matched annually 1.5:1, and the foundation and the corporate community have stepped up each year.
This program encourages families to remain in the city to stabilize neighborhoods. It gives hope to kids who may have had no hope that college, even if they study, is in reach. To date, 700 students have entered college and experienced success, and last year the first group of young college graduates entered the workforce. The Pittsburgh Promise is just one program that demonstrates how health, education, and employment are intimately linked.

Conclusion
There is no silver bullet for improving the health of our nation, but the business case for health is fairly straightforward: It supports the workforce of the future and helps ensure the vitality of our citizens. Jobs, safe communities, transportation, public parks, access to healthy food, and access to healthcare all matter, but disparity is ever present. The genome project will continue to shed light on medical conditions, and advances in technology will be significant to improving health in the United States, but how we address the major social determinants of health will be among the most critical factors for overcoming health disparities and practicing effective population health management.

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Response from Feature Authors

David A. Kindig and George Isham

Our succinct, summary response would be “... but it’s not primarily about medical care.”

But we don’t want to be misunderstood. We genuinely appreciate the companion feature article and the three commentaries. Medical care is an important determinant of population health. Both of us have extensive experience in healthcare delivery organizations. We think that the Triple Aim of simultaneously improving the population’s total health, improving the experience of care, and reducing cost is an important concept and applaud Don Berwick, MD, and the Institute for Healthcare Improvement; the Centers for Medicare & Medicaid Services; and these authors for developing and promoting it. The “Double Aim” of improving only patient experience and controlling medical costs is itself critical, and the authors primarily highlight much of the important innovation now under way within the leading healthcare organizations they are responsible for.

But addressing the Double Aim alone is not enough to significantly improve population health. It is instead “population health management” of defined subpopulations that have access and a relationship to care delivery, usually through an acute or chronic illness. Necessary, to be sure, but insufficient. There is so much more than the Double Aim that we need to do to address the United States’ poor showing in health relative to other advanced countries. The nation’s economic, military, social, and moral leadership depends on our moving out of our comfort zones to maximize the health and capacity of our people. In our view, healthcare delivery has an expanded responsibility and expanded role to play.
We were asked to write about population health, the importance of engaging stakeholders in its improvement, and reducing disparities, and this Third Aim takes us into more much complex territory. The commentaries by Christopher Dadlez, FACHE, and John R. Gardner, FACHE, add to the population health discussion from a healthcare perspective. Commentaries from leaders in public health, business, or community organizations—also important stakeholders—may have a different perspective on the subject and would likely add to our understanding of the challenges of the multisectoral community business model we propose. Diane P. Holder goes the furthest in exploring this direction. She calls on the accountable care organization (ACO) movement to be “not the end game” but a “strategic vehicle to facilitate broad change” and describes the community partnerships she has fostered in mental health and the wonderful Pittsburgh Promise example. But it would be interesting to know how such efforts might be fostered in other sectors and elsewhere and what barriers need to be overcome.

Holder does assert that an effective community integrator must be “trusted and empowered,” and we fully agree. However, Dadlez says that “hospitals and healthcare organizations will be at the center of population health dynamics . . . as expected by communities . . . to provide the central leadership and do the population health heavy lifting.” We hope and expect that many assume this role, and many Triple Aim initiatives and ACOs as profiled here are beginning to step up to this challenge. In many communities, healthcare organizations will have a narrower view, and the multisectoral leadership that we call for may come from other sectors, such as public health, business, and community leaders such as United Way. This variety of leadership focus is being seen across the RWJF Culture of Health Prize–winning communities (www.countyhealthrankings.org/roadmaps/prize).

We understand that healthcare organizations have few policy or financial incentives to move out of even the expanded Double Aim clinical role that population health management entails; one exception is the Internal Revenue Service’s community benefit requirement for nonprofit hospitals. Perhaps the most urgent current task is to develop public- and private-sector incentives and resources to support the expansion of the Triple Aim’s multisectoral total population health efforts that the community business model we propose will require.