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# Issue Brief

## Delivery System Reform Tracking: A Framework for Understanding Change

LAURA TOLLEN, ALAIN ENTHOVEN, FRANCIS J. CROSSON, NANCY TAYLOR,  
ANNE-MARIE AUDET, CATHY SCHOEN, AND MURRAY ROSS

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For more information about this study, please contact:

Laura Tollen, M.P.H.  
Senior Health Policy Leader  
Kaiser Permanente Institute  
for Health Policy.  
[laura.a.tollen@kp.org](mailto:laura.a.tollen@kp.org)

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**ABSTRACT:** The health care delivery system is changing rapidly, with providers forming patient-centered medical homes and exploring the creation of accountable care organizations. Enactment of the Affordable Care Act will likely accelerate these changes. Significant delivery system reforms will simultaneously affect the structures, capabilities, incentives, and outcomes of the delivery system. With so many changes taking place at once, there is a need for a new tool to track progress at the community level. Many of the necessary data elements for a delivery system reform tracking tool are already being collected in various places and by different stakeholders. The authors propose that all elements be brought together in a unified whole to create a detailed picture of delivery system change. This brief provides a rationale for creating such a tool and presents a framework for doing so.

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### OVERVIEW

Enactment of the Affordable Care Act brings new opportunities for delivery system reforms that will yield better patient experiences, improve outcomes, and slow cost growth. Proponents of such reform—including the Institute of Medicine, the Commonwealth Fund Commission on a High Performance Health System, the Council of Accountable Physician Practices, the Medicare Payment Advisory Commission, and the Centers for Medicare and Medicaid Services (CMS) administrator Donald Berwick—have made steady progress over the past decade in raising the profile of delivery system improvement as a critical part of the solution to the health care crisis. Now, under the Affordable Care Act, an innovation center within CMS has been given authority to try large-scale changes in payment to develop new delivery system models in the interest of quality and efficiency. The law also includes policies to enhance payment for patient-centered primary care and allow new payment arrangements for health care systems that qualify as “accountable care organizations.”

Many changes in the delivery system are already under way; the passage of the Affordable Care Act may accelerate them. For example, physicians across the nation are already transforming their practices into patient-centered medical homes, a growing number of providers are exploring how to create accountable care organizations, and the nation has injected unprecedented funding into the building of a health information infrastructure. Significant delivery system overhaul will affect the structures, capabilities, incentives, and outcomes of the health care system in ways that are not fully predictable. With so many changes taking place at once, how can stakeholders understand whether progress is being made? We believe there is a need for a new tool to allow the tracking of delivery system change (or “reform”) at the community or other large-geographic-area level. This brief provides a rationale for creating such a tool (or portfolio of tools) and presents a framework for doing so.<sup>1</sup>

Some of the necessary data elements for a delivery system reform tracking tool are already being collected by different stakeholders. We propose that all these elements must be brought together into a unified whole to create a detailed picture of delivery system change. Further, there are significant holes in the information that is currently collected about the delivery system, and our framework outlines the additional information needed. We hope the brief will serve as a call for continued development of valid measures that will support efforts to track progress.

The primary goal of a delivery system tracking tool is to understand whether progress is being made in a given community. It is necessary, therefore, to have some notion of what progress would look like. In other words, what is a reformed delivery system, and how will we know it when we see it? As stated by the Institute of Medicine, we believe that the United States needs a health care system that is safer, more effective, more patient-centered, timelier, more efficient, and more equitable than the traditional non-system

that dominates American health care today.<sup>2</sup> In short, a reformed system is one in which the various elements—primary care physicians, specialists, hospitals, ambulatory surgery centers, etc.—can manage health and economic outcomes by measuring, planning, and executing changes to improve performance and are held accountable for delivering high-quality, affordable care and a positive patient experience.

## **WHY NOT JUST TRACK OUTCOMES?**

A robust delivery system monitoring tool must track changes in the structure, functions, and outcomes of the health care system. While tracking outcomes is essential to evaluate progress, it is also important to understand the structural and functional elements associated with better performance. These additional elements, along with outcome measures, allow for the exploration of many important questions, such as:

- How does organizational structure relate to outcomes? Which organizational types are most successful? For example, do independent medical groups produce different outcomes than groups owned by hospitals?
- How do payment and other incentives affect capabilities and, ultimately, outcomes? For example, will bundled payment lead to consolidation of health care entities? If so, what is the effect on care delivery models and costs?
- How does the market environment influence delivery system change, and how does delivery system change influence the market environment? Is it easier or more difficult to develop reformed care systems in highly competitive or more consolidated markets?
- How effective are different policy options for improving performance and facilitating spread and growth?

## FRAMEWORK FOR A DELIVERY SYSTEM REFORM TRACKING TOOL

We propose a four-part framework for organizing the information that would be included in a tracking tool. To identify delivery system change within a defined geographic area and determine whether that change represents progress toward reform, it is important to have information regarding the following:

1. **Structure:** What does it look like? How is the delivery system organized, and how does it change over time?
2. **Capabilities:** What can it do? Does the delivery system have the tools and processes in place that would allow it to manage total spending and health outcomes?
3. **Incentives:** With what incentives is it provided? Do incentives in the external environment encourage the delivery system to contain costs and improve health outcomes?
4. **Outcomes:** What does it actually do? Does the delivery system succeed at containing costs and improving health outcomes?

A tracking tool would monitor delivery system progress in a defined geographic area and compare progress across areas. The ideal geographic unit of analysis for this purpose is not immediately clear and could include hospital referral regions, metropolitan statistical areas, counties, states, and other areas. Geographic units of analysis should correspond with delivery system stakeholders' ability to effect change. It is challenging to define a community in which effective action is possible, and where stakeholders are well-defined and accountable for outcomes. Further, it will not be possible to collect information regarding all four elements at every level of geographic analysis, nor for every component of the delivery system (primary care physicians, specialists, hospitals, etc.). However, the proposed framework would ultimately allow stakeholders to consider the appropriate geographic levels and delivery system components about which to collect

data, based on both availability of relevant information and the ability to effect change.

This section describes each of the four elements of the tracking tool's framework in more detail and suggests possible sources of information and measures—some of which are already in use—for each element. We have chosen not to include a list of specific measures for each element because we want to encourage broad thinking about the types of information needed, and let measure development follow from that need, rather than limiting the discussion only to types of information for which there are already good measures.

### Structure

The first component of the tracking framework is structure. We think of this as demographic or census information. How many providers of what organizational types—solo practices, medical groups, public hospitals, hospital systems, etc.—can be found in a community? While this information by itself does not indicate whether the delivery system is “reformed,” these data will become increasingly meaningful as more research links better outcomes to specific organizational models.<sup>3</sup> Until then, there is a case for “structural agnosticism.” However, reform will require some organizational structure change, as the necessary systems to report outcomes and costs and to act on that information will require money, commitment by physicians and other health professionals, and an identifiable management structure.

The accountable care organization (ACO) and patient-centered medical home (PCMH) concepts lend urgency to the notion of tracking and identifying organizations that could easily accept payment incentives designed to improve value. The most likely candidates for these roles are the existing multispecialty group practices and independent practice associations (IPAs), often working under per capita prepayment, either for all services or for some, and for all payers or some. Hospital medical staff organizations, physician-hospital organizations (PHOs), and health plan-provider organizations or networks could also become ACOs.<sup>4</sup>

We propose the following short list of organizational structures that could be tracked or included as one part of an overall scheme for monitoring delivery system change. This list is meant to be illustrative, not exhaustive. Further, these structures are not mutually exclusive:

- multispecialty group practices of various sizes, both with and without an owned or affiliated health plan;<sup>5</sup>
- health maintenance organizations (HMOs), which may be based on one multispecialty group practice, two or more otherwise unaffiliated group practices, IPAs, a mix of the above, or unaffiliated doctors contracting with the same HMO;<sup>6</sup>
- independent practice associations;<sup>7</sup>
- physician–hospital organizations;<sup>8</sup>
- accountable care organizations—CMS will likely adopt accreditation criteria developed by the National Committee for Quality Assurance (NCQA);<sup>9</sup>
- patient-centered medical homes (as recognized by NCQA),<sup>10</sup> and
- state health information exchanges<sup>11</sup> and Beacon communities.<sup>12</sup>

Among these categories, there is significant overlap, lack of agreement on definitions of terms, and little clarity regarding what they actually do in terms of managing health or costs. However, it is necessary to start somewhere, and the organizations within each category have more in common with one another than do organizations across categories. (See [Appendix](#) for a more detailed description of each organizational type.)

## Capabilities

An assessment of delivery system capabilities will help determine whether the system has the skills, tools, and processes to allow it to manage total spending and health outcomes. For example, the system must be

able to define a population for which it is responsible. It then must measure whether patients are healthy and need preventive care, have chronic diseases, receive appropriate care, are satisfied, and if there are the right number and type of providers to meet patients' needs. Once a system has this type of information, it must have the capability of acting on it to achieve goals of high performance. There is an extensive literature on the tools and processes that characterize high-performing delivery systems.<sup>13</sup> For some of these tools and processes, there are currently no good measures. This list should therefore be considered aspirational; one would want to be able to measure the following for the various delivery system components within a community:

- investment in and processes for quality and performance measurement and improvement;
- meaningful use of information systems that can measure clinical and financial performance, support coordination of care, prevent errors and waste resulting from incomplete information, and inform providers of the latest and best science and its implications for care processes;
- ability to coordinate care across conditions, providers, sites, and time;
- use of peer review and teams;
- focus on primary care and prevention;
- ability to control the numbers and types of providers and match resources used to the needs of the population served; and
- sufficient organizational structure to allow physicians to work together in economic units capable of accepting collective responsibility for both the quality and cost of health care services.

Some organizations already collect information related to some of these capabilities. The National Study of Physician Organizations collects data on use-of-care management processes, quality improvement processes, health information technology, care

coordination, and teams.<sup>14</sup> The California-based Integrated Healthcare Association uses several measures of meaningful use of health information technology, as well as coordination of care.<sup>15</sup> The Community Tracking Study/Community Quality Index of the Center for Studying Health System Change collects data on coordination of care.<sup>16</sup>

Further work is required both to develop new, meaningful capabilities measures, and also to winnow down the list of existing measures to those most appropriate for a tracking tool. Such measures should be readily operationalized and broadly available in various parts of the country and for different delivery system components.

## Incentives

A delivery system must not only have the capability to manage total health spending and outcomes, it must also have an incentive to do so. In this framework, we divide incentives into three domains—how providers and provider organizations are paid, the competitive environment, and nonfinancial.

**Payment.** True delivery system reform will require new payment models. Under the dominant fee-for-service (FFS) payment system in the United States, the more (or more costly) services that are performed, the more the patient perceives benefit, and the more the provider is rewarded. For costly conditions and care, once deductibles and out-of-pocket maximums have been exceeded, neither patient nor provider experiences a perception of limited resources that would call for cost-benefit tradeoffs, other than the physical limitations of provider facilities and physician time. Central to the idea of “delivery system reform,” therefore, is the notion that we must move away from incentives that promote volume of services and toward incentives that promote better outcomes for less cost.

It is useful to think of payment incentives as falling on a continuum from FFS to full, global capitation. In between are various hybrid approaches, such as care management fees for primary care only, episode-based case rates, shared savings, and partial capitation

(or shared risk). The relative pros and cons of these different incentive systems have been debated extensively, but broadly speaking FFS provides no explicit payment for—and therefore no incentive to foster—the capabilities described in the previous section. Full capitation, alternatively, allows organizations to invest in the capabilities they believe will help provide the best value, but also creates financial incentives to restrict care. Payment models between these extremes provide mixed incentives.

While there are many different payers in every community, and therefore many different approaches to payment incentives, communities are largely dominated by one approach. Being able to track the approaches used by different payers would help provide a picture of the payment environment in which the community’s delivery system operates. However, it is more complicated than simply counting the number of payers that use FFS or a different payment approach. Payment incentives at two levels must be considered: how do health care payers (Medicare, Medicaid, and health plans) pay medical groups and hospitals, and how do those organizations, in turn, pay individual clinicians?

The way organizations are paid and the way they pay their physicians are related. Robinson and colleagues found that medical groups and IPAs in markets with high managed care penetration are significantly less likely to pay individual physicians using FFS than are organizations in markets with lower managed care penetration.<sup>17</sup> In a different study, Robinson found that medical groups facing external pay-for-performance incentives are more likely to pay their primary care physicians and specialists based on quality and satisfaction than are groups not subject to pay-for-performance.<sup>18</sup> Further, medical groups under capitation payment are more likely to pay member physicians on salary and less likely to pay based on productivity than groups paid FFS by insurers.

**Competitive environment.** It is critical to consider the degree to which the competitive environment creates incentives for providers to be more efficient or



produce better value. For example, a system that looks “reformed” in the sense of having salaried physicians, information technology, care management processes, and so on, could also be an actual or “reputational” (i.e., functional) monopoly, in which efficiency gains are captured by providers, not consumers. Monopoly may be unavoidable in geographic regions too small to support more than one provider system at an efficient level of operation. A delivery system reform tracking tool should have a mechanism for understanding the extent of competition in an area to paint a realistic picture of what type of reform is possible.

In geographic areas with more than one provider system, the tracking tool must capture an additional aspect of the competitive environment—whether consumers have an incentive to choose higher-value delivery systems. While individuals who purchase insurance on their own are fully exposed to cost differentials, those with employers who pay most of the cost will not reap the full benefits of choosing a more-efficient plan (i.e., one with more-efficient providers). Further, some employers may not even offer the choice of an efficient, organized delivery system if a majority of their workforce prefers (in part, because of the employer subsidy) a relatively open-network FFS plan. In such an environment, even with good internal incentives, a reformed system may not be rewarded with additional market share, as the external price signals are not correct.<sup>19</sup>

**Nonfinancial incentives.** Incentives need not be financial to stimulate providers to develop the capabilities and achieve the outcomes discussed in this brief. Public reporting of results and other reputational effects can be very powerful. For example, as reported by The Commonwealth Fund in *Aiming Higher: Results from a State Scorecard on Health System Performance, 2009*, the worst-performing state now scores higher overall than the average score for all states several years ago.<sup>20</sup>

Currently, few measures of incentives can capture the complexity described here. However, census-taking—for example, measuring the shares of physicians in a community who are paid salary rather than

FFS, the share of medical groups deriving at least 50 percent of their revenue from capitation, or the share of groups receiving “pay for performance” bonuses—is a good place to start. In the future, as more sophisticated measures become available, a tracking tool might be able to gather appropriate information to answer the following questions:

- Do physicians and hospitals share the same revenue stream or significant payment incentives so that physicians have an interest in holding down hospital costs?
- To what extent do financial incentives to deliver more (or more costly) services actually affect physicians’ treatment patterns?
- What percentage of insured consumers in a market area have fully cost-conscious choice of alternative delivery systems?
- What are the market consequences, if any, of greater risk-adjusted per capita spending on the part of providers (for example, can higher costs lead to lower market share)?

## Outcomes

Improved health outcomes are a critically important product of health care delivery systems. A delivery system reform tracking tool must include measures of the types of outcomes that can be influenced by the previously discussed capabilities and incentives. For example, simple and direct (proximate) health-related outcomes that a delivery system produces include:

- rates of preventable hospital readmissions and emergency room visits;
- rates of hospital-acquired infections;
- rates of ambulatory care-sensitive admissions;
- rates of 30-day mortality for myocardial infarction;
- rates of appropriate immunizations, diabetic retinopathy exams, mammograms, etc. (as measured by HEDIS and other tools);<sup>21</sup>

- rates of use of “best practices” as measured by tools such as the RAND Quality Assessment Tools system;<sup>22</sup> and
- patient-reported health and functional status (from surveys such as the SF-36 from QualityMetric).<sup>23</sup>

While the above measures are important, they do not produce the complete body of information needed to understand fully the more profound (ultimate) outcomes of a delivery system—the extent to which healthy people can remain healthy, the chronically ill can manage their illnesses, and the acutely ill can receive appropriate treatment or palliative care. Measures related to these ultimate outcomes might include items such as the percentage of breast cancers detected in stage 1, the percentage of joint replacements needing revision surgery within five years, and rates of health care–acquired infections. Numerous organizations and government agencies already collect information relevant to these outcomes (Exhibit 1).<sup>24</sup>

A delivery system reform tracking tool should also include information about the patient experience outcomes achieved by providers. How satisfied are patients? How easy or hard is it for them access needed

services? To what extent does the patient perceive that care is coordinated across settings and time? To what extent is the patient included in a shared decision-making model? Possible sources of this type of information include, among others: the Consumer Assessment of Healthcare Providers and Systems (CAHPS) sponsored by the Agency for Healthcare Research and Quality; the National Study of Physician Organizations; the Medicare Health Outcomes Survey; and the “patient experience domain” collected by the Integrated Healthcare Association in California.<sup>25,26</sup>

Finally, appropriate use of resources is another critical outcome of a reformed delivery system. While the field of efficiency measurement is still developing, a number of organizations are collecting information on rates of per-hospital and per-physician spending, health care spending per capita, acute care discharges per capita, percentage of surgeries done in ambulatory surgery centers, and rates of generic prescribing (Exhibit 1).<sup>27</sup>

As with measures of capabilities, further work is required both to develop new, meaningful outcomes measures and to winnow down the list of existing measures to those that would be most appropriate for tracking delivery system reform.

**Exhibit 1. Organizations Currently Collecting Information on Delivery System Outcomes**

Organization	Tool for Gathering Information on Health Outcomes	Tool for Gathering Information on Efficiency Outcomes
Agency for Healthcare Research and Quality	Healthcare Cost and Utilization Project <sup>28</sup>	Healthcare Cost and Utilization Project; Medical Expenditure Panel Survey <sup>29</sup>
Centers for Medicare and Medicaid Services	Hospital, Nursing Home, and Home Health Compare <sup>30</sup>	Medicare and Medicaid claims data
Center for Studying Health System Change	Physician and Household Surveys <sup>31</sup>	Physician and Household Surveys
Commonwealth Fund	State Scorecard <sup>32</sup>	State Scorecard
Dartmouth Atlas Working Group	Dartmouth Atlas of Health Care <sup>33</sup>	Dartmouth Atlas of Health Care
Integrated Healthcare Association	Pay-for-performance program <sup>34</sup>	Pay-for-performance program
National Committee for Quality Assurance	HEDIS <sup>35</sup>	Relative Resource Use measures (developed for health plans, but might be useful in the future for measurement at the delivery system level) <sup>36</sup>
National Institutes of Health	Patient-Reported Outcomes Measurement System (PROMIS) <sup>37</sup>	n/a
National Quality Forum	Many endorsed tools for ambulatory and inpatient settings <sup>38</sup>	n/a
RAND	Quality Assessment Tools system <sup>39</sup>	Symmetry Episode Treatment Groups <sup>40</sup>

## **CHALLENGES TO DELIVERY SYSTEM REFORM TRACKING**

By using a tracking tool, such as the one described in this brief, the authors envision color-coded maps of communities within the United States, indicating the overall characteristics of the delivery systems in terms of their structures, capabilities, incentives, and outcomes. There are, however, some important challenges to this vision.

### **Blank Spaces on the Map**

Without much comparative effectiveness research on the different organizational structures, we should avoid prematurely committing to any organizational structure as the one that represents “reform.” However, without some organizational structure within the delivery system, it will be difficult to collect any information about capabilities, outcomes, or incentives. In areas dominated by solo and small single-specialty group practices, therefore, there may be blank spots on the map. Presumably, these blank areas will shrink over time, as enhanced organizational structure leads to the availability of more data and as the ability to collect information where structure is lacking improves.

To date, Medicare is the most important source of data from those communities where there is little or no organizational structure in the delivery system. Aggregate per capita expenditure and utilization data are tracked by Medicare and by insurance companies, so there is access to some amount of performance information. In areas where there are large populations of employees of self-insured employers, third-party administrators may be able to report this information.

### **Availability of Outcomes Data**

Outcomes data can be difficult and expensive to obtain and analyze. The cost and difficulty will diminish as increasing numbers of delivery systems implement comprehensive electronic medical records, provided the capabilities of these systems are compatible enough to allow for valid comparisons. This capability is important for care coordination and quality improvement. In addition, the ability to track performance on

a delivery system-wide scale is a goal of the programs of the Office of the National Coordinator for Health Information Technology. The development of outcomes data that can be compared across communities and states will require an extensive effort to develop and adopt common definitions and standards—similar to what the Integrated Healthcare Association has achieved in California with its pay-for-performance program, which includes comparisons among more than 200 medical groups and IPAs, or what NCQA collects on a nationwide basis. Moving forward, we should aim to build on and use these existing systems.

### **Need for More Risk Adjustment**

One of the primary obstacles to collecting data on capabilities and outcomes is the need for risk adjustment to account for population differences that affect outcomes. There has been great progress in risk adjustment of outcomes. In some cases, such as in New England cardiac surgical outcomes, risk-adjusted measures are accepted as fair and reasonable for professional use in quality improvement, although not for public reporting. In addition, there has been public reporting of risk-adjusted cardiac surgery outcomes in New York and Pennsylvania since the 1990s. CMS publishes this information for Medicare patients with congestive heart failure, coronary artery disease, and pneumonia on its Hospital Compare Web site.<sup>41</sup> More publicly reported studies such as these are needed for more conditions and procedures.

### **Rolling Up the Data**

Because the goal of a tracking tool is to understand delivery system change at the community level, we would want to “roll up” data elements from the level of organizations to geographic regions. It may be possible to do this with some types of data but not with others. Further, while it is essential to measure performance for each delivery system component, it is equally important—yet more challenging—to measure the performance that those components together produce. The reverse is also true. When we observe an outcome jointly produced by a number of delivery



system components, it is also important to know how to allocate credit (or blame). For example, when transitions from the hospital to the home are handled well, does the hospital or the physician receive the credit? Assessing macro-system performance is inevitably more complex than simply adding—or rolling up—measures at the provider level to arrive at community-level performance.

## **NEXT STEPS**

We have outlined a framework for a delivery system reform tracking tool—one that would include vital information on delivery system structure, capabilities, incentives, and outcomes. Such a tool would give more tangible meaning to the notion of “delivery system reform,” uniting would-be reformers around the meaning and direction of their work. This information could be used by policymakers to evaluate overall progress, identify high performers, and develop policies to help these high performers continue to improve and share their best practices with others. As data and information systems mature and allow analysis of outcomes, costs, care experiences, and the organization of the delivery system itself, a tracking tool could also be used by health care purchasers to indicate directions of development for pay-for-performance or other incentive programs.

The framework for our proposed tracking tool includes categories of desired information, but it does not include specific measures. In some cases, good measures already exist to capture the relevant information; in others, we are remarkably data poor. Even

when good measure sets do exist, they are generally not designed to fit together with other measure sets. They cannot “talk to” one another, as they are based on vastly different methodologies, with different denominators, and were designed for disparate purposes. Stakeholders must continue important work in measure development. Furthermore, we would like to see stakeholders come together around a more coherent, unified picture of what needs to be measured, so that disparate measurement activities can relate to one another and feed into a tool or tools that would paint a comprehensive picture of community-level delivery system change over time.

Such a unity of vision and effort requires leadership—an organization that will own the process and gather stakeholders together to achieve alignment of existing measures and development of new ones. We believe numerous existing organizations have the expertise for such a task. A short list includes public, quasi-public, and private, nonprofit organizations, such as the Agency for Healthcare Research and Quality, the Centers for Medicare and Medicaid Services, the National Quality Forum, the National Committee for Quality Assurance, the Institute of Medicine, and the Center for Studying Health System Change. In the short run, there is a need for resources to explore the concept further and assess stakeholder support. Without a clear understanding of what is changing in the delivery system, it will be impossible to draw any conclusions about the impact of change on cost, quality, access, and patient experience.

## Appendix. Glossary of Terms Related to Delivery System Organizational Structure

**Multipspecialty Group Practice:** A formal organization of physicians who share income, expenses, facilities, equipment, and support staff, and represent multiple specialties, including primary care. The Medical Group Management Association defines a multispecialty group practice as having at least three physicians, although many experts would argue that a group cannot realistically provide a full range of specialties without a much higher number of physicians (i.e., 50 to 100).

*Examples:* Palo Alto Medical Foundation, Geisinger Clinic, Mayo Health System, the Permanente Medical Group

**Health Maintenance Organization (HMO):** A type of insurance organization that receives a premium to cover a comprehensive set of services for an enrolled population and both pays for and delivers all medically necessary services, either directly or through contracts with providers. The providers, in turn, may be independent from one another, or organized into various structures. There are two types of HMOs: 1) “delivery system HMOs,” which are built on the foundation of a specific multispecialty medical group or groups; and 2) “carrier HMOs,” which are not connected to an anchor medical group or delivery system but instead contract with providers who are otherwise unaffiliated with the insurer and each other. These providers, in turn, contract with multiple insurers, which may include HMOs and others.<sup>42</sup>

In the proposed tracking tool, it would be critical to distinguish between these types. Delivery system HMOs tend to be organizations, and therefore counted easily, while carrier HMOs are likely to be products sold by insurance companies (which also sell other types of insurance products). Counting the latter would be more difficult than the former, as the lines between HMO products and other products are not always clear. It would still be useful to track this information to determine which type of HMO dominates any growth that may occur.

*Examples of delivery system HMOs:* Kaiser Foundation Health Plan, built on the foundation of the Permanente Medical Groups; Geisinger Health Plan, built on the foundation of the Geisinger Health System; Scott and White Health Plan, built on the foundation of the Scott and White Medical Clinic

*Examples of carrier HMOs:* most HMO products sold by commercial insurers, such as United Health Care, Aetna, and Anthem qualify as carrier HMOs

**Independent Practice Association (IPA):** A network of physicians who agree to participate in an association to contract with health maintenance organizations (HMOs) and other managed care plans. Although physicians maintain ownership of their practices and administer their own offices, the IPA serves as a corporate structure for negotiating and administering HMO contracts for its physician members.<sup>43</sup> Some IPAs have developed capabilities far beyond these administrative functions, taking on responsibility for improving care delivery. Some have been successful in deploying electronic health records for their members, implementing utilization management processes and shared clinical guidelines, and creating a sense of shared identity among their members.

*Examples:* Hill Physicians Medical Group, Brown and Toland, and Mills–Peninsula Medical Group (all in Northern California); Greater Rochester IPA (New York)

**Physician–Hospital Organization (PHO):** As defined by the American Hospital Association, a “closed PHO” is a joint venture between a hospital and physicians who have been selected on the basis of cost-effectiveness and/or high quality. The PHO can act as a unified agent in managed care contracting, own a managed care plan, own and operate ambulatory care centers or ancillary services projects, or provide administrative services to physician members. An “open PHO” is a joint venture between a hospital and all members of the medical staff who wish to participate, and serves the same functions as a closed PHO.<sup>44</sup>

*Examples:* Mount Auburn Hospital/Mount Auburn–Cambridge IPA (Massachusetts),  
University of California, Los Angeles, Health System

**Accountable Care Organization (ACO):** As defined by the Medicare Payment Advisory Commission, an ACO is a “set of physicians and hospitals that accept joint responsibility for the quality of care and the cost of care received by a panel of patients.”<sup>45</sup> Because the key players in an ACO are physicians and hospitals, it can be considered a specific type of physician–hospital organization. However, the key aspect of the ACO concept that differentiates it from a PHO is the shared responsibility for the total care of a population. Many health care delivery organizations are currently rushing to call themselves ACOs, but it is not clear that all those using the term exhibit the core characteristics of joint physician–hospital responsibility for a population. The lack of common definitions makes tracking ACOs—which may exhibit various organizational and payment models—challenging but nevertheless important.

An initial starting place for tracking ACOs may be to use the narrower definition of the term found in the Affordable Care Act (Section 3022): an organization of health care providers that “shall be willing to become accountable for the quality, cost, and overall care of the Medicare fee-for-service beneficiaries assigned to it.” Organizations designated as ACOs by CMS will be eligible to participate in a Medicare Shared Savings program, effective January 1, 2012. Under this program, ACOs may be formed by a group practice, a network of individual practices, a partnership or joint venture, a hospital employing professionals, or other entities determined by the secretary of Health and Human Services. ACOs must: have a formal legal structure to receive and distribute shared savings; have a sufficient number of primary care professionals for at least 5,000 beneficiaries; agree to participate in the program for at least three years; and have the ability to report on quality and cost measures, coordinate care, and use enabling technologies.

*Examples:* No organizations have yet been designated ACOs under Section 3022. Proposed rules regarding the ACO Medicare Shared Savings program were released on March 31, 2011.<sup>46</sup> Apart from the definition of ACOs in Section 3022, however, a number of physician–hospital collaborators in the private sector are forming new, accountable entities. Blue Shield of California launched an ACO project for the California Public Employees Retirement System, joining with Catholic Healthcare West and Hill Physicians to offer enrollees a more integrated care system. Premier Healthcare Alliance launched two collaboratives designed to help hospital systems prepare for participation in ACOs. These collaboratives will include 19 health systems in 15 states, 70 hospitals, more than 5,000 physicians, and 1.2 million patients.

**Patient-Centered Medical Home (PCMH):** As defined by the National Committee for Quality Assurance (NCQA), which provides recognition to patient-centered medical homes, a patient-centered medical home is a primary care health care setting that facilitates partnerships between individual patients and their personal physicians, and when appropriate, the patient’s family. Care is facilitated by registries, information technology, health information

exchange and other means to assure that patients get the indicated care when and where they need and want it in a culturally and linguistically appropriate manner.<sup>47</sup>

NCQA's Patient-Centered Medical Home 2011 is a program for improving primary care. The program gives physician practices information about organizing care around patients, working in teams, and coordinating and tracking care over time. There are six PCMH 2011 must-pass elements, which can result in one of three levels of recognition. Primary care practices seeking PCMH recognition complete an online data collection tool and provide documentation that validates responses.

The American Academy of Pediatrics (AAP) introduced the medical home concept in 1967, initially referring to a central location for archiving children's medical records. In its 2002 policy statement, the AAP expanded the medical home concept to include these characteristics: accessible, continuous, comprehensive, family-centered, coordinated, compassionate, and culturally effective care. In 2007, a set of joint principles for the PCMH were codified by the Patient-Centered Primary Care Collaborative (which included the AAP, the American Academy of Family Physicians, the American College of Physicians, and the American Osteopathic Association).<sup>48</sup>

*Examples:* NCQA maintains a list of recognized patient-centered medical homes by state.<sup>49</sup>

**State Health Information Exchange:** A state, territory, or state-designated entity recognized under the State Health Information Exchange Cooperative Agreement Program of the Office of the National Coordinator for Health Information Technology (ONC). This program funds states' efforts to build capacity for exchanging health information across the health care system, both within and across states.<sup>50</sup> Awardees are responsible for increasing connectivity and enabling patient-centric information flow to improve the quality and efficiency of care. In March 2010, 56 states, territories, and state-designated entities received awards under this program. In January 2011, an additional \$16 million was made available to select states through ONC's Challenge Grants program. This program provides funding to states to encourage breakthrough innovations for health information exchange that can be leveraged widely to support nationwide health information exchange and interoperability.

*Examples:* ONC maintains an online list of State Health Information Exchange and Challenge Grant awardees.<sup>51</sup>

**Beacon Community:** A community recognized under the Beacon Community Cooperative Agreement Program of the Office of the National Coordinator for Health Information Technology (ONC). The program funds 17 communities throughout the United States that have made inroads in the development of secure, private, and accurate systems of electronic health record adoption and health information exchange.<sup>52</sup> The 17 Beacon Communities focus on specific and measurable improvement goals in three areas: quality, cost-efficiency, and population health. The goals vary according to the needs and priorities of each community.

*Examples:* ONC maintains an online list of Beacon Community awardees.<sup>53</sup>

## NOTES

- 1 Rittenhouse and colleagues presented a framework for understanding community-level changes related to implementation of the patient-centered medical home (PCMH) earlier this year (D. R. Rittenhouse, D. H. Thom, and J. A. Schmittiel, “Developing a Policy-Relevant Research Agenda for the Patient-Centered Medical Home,” *Journal of General Internal Medicine*, June 2010 25(6):593–600). In the spirit of that framework, we propose something at once broader and narrower. It is broader because our focus is not only on the PCMH but rather on all types of delivery system change. Our focus is narrower than Rittenhouse’s framework, which encompassed broad public health outcomes, in that we propose measurement only of items—such as rates of chronic disease screening and other clinical indicators—that are directly influenced by the way health care is delivered. Although we ultimately believe broad public health outcomes are the yardstick by which the delivery system should be measured, we do not believe the causal relationships between the delivery system and such outcomes are yet well enough understood.
- 2 Institute of Medicine, *Crossing the Quality Chasm: A New Health System for the 21st Century* (Washington, D.C.: National Academies Press, 2001).
- 3 A body of research supports the view that prepaid group practices can reduce per capita expenditures significantly without cutting quality, compared with traditional, uncoordinated fee-for-service care. For a summary, see A. C. Enthoven and L. A. Tollen (eds.), *Toward a 21st Century Health System: The Contributions and Promise of Prepaid Group Practice* (San Francisco: Jossey Bass, 2004); and L. A. Tollen, *Physician Organization in Relation to Quality and Efficiency of Care: A Synthesis of Recent Literature* (New York: The Commonwealth Fund, April 2008).
- 4 S. M. Shortell and L. P. Casalino, “Health Care Reform Requires Accountable Care Systems,” *Journal of the American Medical Association*, July 2, 2008 300(1):95–97.
- 5 Organizations currently collecting information on multispecialty group practices include the American Medical Group Association, the American Medical Association, and the National Study of Physician Organizations at the University of California, Berkeley (<http://nsपो.berkeley.edu/>).
- 6 America’s Health Insurance Plans currently collects some of the relevant information.
- 7 The IPA Association of America currently collects relevant information.
- 8 This is still a fairly general term, currently lacking enough specificity to be tracked by any organization of which we are aware.
- 9 See [www.ncqa.org/tabid/1266/Default.aspx](http://www.ncqa.org/tabid/1266/Default.aspx) for a draft of NCQA’s proposed ACO criteria.
- 10 See [www.ncqa.org/tabid/631/Default.aspx](http://www.ncqa.org/tabid/631/Default.aspx).
- 11 The Office of the National Coordinator for Health Information Technology (ONC) has established the State Health Information Exchange Cooperative Agreement Program. ONC will create a “Health IT Dashboard” on its Web site to convey adoption and meaningful use statistics, as well as information specific to ONC’s Recovery Act/HITECH implementation. Data sources will include the CDC National Ambulatory Medical Care Survey; the AHA Annual Survey, IT Supplement; e-prescribing data; and CMS meaningful use payments. See [http://healthit.hhs.gov/portal/server.pt/community/healthit\\_hhs\\_gov\\_state\\_health\\_information\\_exchange\\_program/1488](http://healthit.hhs.gov/portal/server.pt/community/healthit_hhs_gov_state_health_information_exchange_program/1488).
- 12 See [http://healthit.hhs.gov/portal/server.pt/community/healthit\\_hhs\\_gov\\_onc\\_beacon\\_community\\_program\\_improving\\_health\\_through\\_health\\_it/1805](http://healthit.hhs.gov/portal/server.pt/community/healthit_hhs_gov_onc_beacon_community_program_improving_health_through_health_it/1805).



- <sup>13</sup> T. G. Rundall, S. M. Shortell, M. C. Wang et al., “As Good as It Gets? Chronic Care Management in Nine Leading U.S. Physician Organizations,” *BMJ*, Oct. 26, 2002 325(7370):958–61; S. M. Shortell, J. Schmittdiel, M. C. Wang, et al., “An Empirical Assessment of High-Performing Medical Groups: Results from a National Study,” *Medical Care Research and Review*, Aug. 2005 62(4):407–34; A. Shih, K. Davis, S. Schoenbaum, A. Gauthier, R. Nuzum, and D. McCarthy, *Organizing the U.S. Health Care Delivery System for High Performance* (New York: The Commonwealth Fund, Aug. 2008); J. Yonek, S. Hines, and M. Joshi, *A Guide to Achieving High Performance in Multi-Hospital Health Systems* (Chicago: Health Research and Educational Trust, March 2010), <http://www.hret.org/quality/projects/identifying-best-practices-to-improve-multi-hospital-health-system-performance.shtml>.
- <sup>14</sup> See <http://nspo.berkeley.edu/>.
- <sup>15</sup> See [www.iha.org/manuals\\_operations\\_2011.html](http://www.iha.org/manuals_operations_2011.html).
- <sup>16</sup> See [www.hschange.org/index.cgi?data=12](http://www.hschange.org/index.cgi?data=12).
- <sup>17</sup> J. C. Robinson, S. M. Shortell, R. Li et al., “The Alignment and Blending of Payment Incentives Within Physician Organizations,” *Health Services Research*, Oct. 2004 39(5):1589–1606.
- <sup>18</sup> J. C. Robinson, S. M. Shortell, D. R. Rittenhouse et al., “Quality-Based Payment for Medical Groups and Individual Physicians,” *Inquiry*, Summer 2009 46(2):172–81.
- <sup>19</sup> Some systems now operate in an environment in which the potential customers do have fully cost-conscious choices. In Madison, Wis., for example, four nonprofit organized delivery systems compete to serve state employees. The employer (i.e., the state) offers several choices, pays the full cost for the lowest-priced plan, and expects employees to pay the difference if they want a more costly plan. In such a market, a relatively higher premium will lead to reduced market share and perhaps loss of income on the part of providers. As a result, the delivery systems have worked hard to contain expenditure growth. In fact, compared with the rest of the state, they have “bent the curve” of expenditure growth. See D. Reimer and A. Enthoven, “Op-Ed: The Only Public Health Plan We Need,” *New York Times*, June 24, 2009, <http://www.nytimes.com/2009/06/25/opinion/25enthoven.html?scp=1&sq=Enthoven&st=nyt>.
- <sup>20</sup> Personal communication, Cathy Schoen, Senior Vice President for Policy, Research and Evaluation, The Commonwealth Fund, Nov. 9, 2010.
- <sup>21</sup> HEDIS measures are not normally considered outcomes measures, but rather process measures. However, in the context of the framework we have created for the index—structure, capabilities, incentives, and outcomes—they fit most neatly into the category of “outcomes,” as they help us understand what the delivery system actually does, as opposed to what it has the capability and/or incentives to do.
- <sup>22</sup> E. A. McGlynn, S. M. Asch, J. Adams et al., “The Quality of Health Care Delivered to Adults in the United States,” *New England Journal of Medicine*, June 2003 348(26):2635–45; E. A. McGlynn, E. A. Kerr, and S. M. Asch, “New Approach to Assessing the Clinical Quality of Care for Women: The QA Tool System,” *Women’s Health Issues*, July-Aug. 1999 9(4):184–92.
- <sup>23</sup> See [www.qualitymetric.com/WhatWeDo/GenericHealthSurveys/SF36v2HealthSurvey/tabid/185/Default.aspx](http://www.qualitymetric.com/WhatWeDo/GenericHealthSurveys/SF36v2HealthSurvey/tabid/185/Default.aspx).
- <sup>24</sup> P. Romano, P. Hussey, and D. Ritley, *Selecting Quality and Resource Use Measures: A Decision Guide for Community Quality Collaboratives* (Rockville, Md.: Agency for Healthcare Research and Quality, May 2010), <http://www.ahrq.gov/qual/perfmeasguide/>.

- <sup>25</sup> See [www.hosonline.org/Default.aspx](http://www.hosonline.org/Default.aspx).
- <sup>26</sup> See [www.cahps.ahrq.gov/default.asp](http://www.cahps.ahrq.gov/default.asp).
- <sup>27</sup> P. S. Hussey, H. de Vries, J. Romley et al., “A Systematic Review of Health Care Efficiency Measures,” *Health Services Research*, June 2009 44(3):784–805.
- <sup>28</sup> See [www.ahrq.gov/data/hcup/](http://www.ahrq.gov/data/hcup/).
- <sup>29</sup> See [www.meps.ahrq.gov/mepsweb/](http://www.meps.ahrq.gov/mepsweb/).
- <sup>30</sup> See [www.hospitalcompare.hhs.gov/](http://www.hospitalcompare.hhs.gov/), [www.medicare.gov/NHCompare](http://www.medicare.gov/NHCompare), [www.medicare.gov/HomeHealthCompare](http://www.medicare.gov/HomeHealthCompare).
- <sup>31</sup> See [www.hschange.org/index.cgi?data=12](http://www.hschange.org/index.cgi?data=12).
- <sup>32</sup> See [www.commonwealthfund.org/Maps-and-Data/State-Scorecard-2009.aspx](http://www.commonwealthfund.org/Maps-and-Data/State-Scorecard-2009.aspx).
- <sup>33</sup> See <http://www.dartmouthatlas.org/>.
- <sup>34</sup> See [www.iha.org/manuals\\_operations\\_2011.html](http://www.iha.org/manuals_operations_2011.html).
- <sup>35</sup> See <http://www.ncqa.org/tabid/59/Default.aspx>.
- <sup>36</sup> See [www.ncqa.org/tabid/1231/Default.aspx](http://www.ncqa.org/tabid/1231/Default.aspx).
- <sup>37</sup> See [www.nihpromis.org/default.aspx](http://www.nihpromis.org/default.aspx).
- <sup>38</sup> See [www.qualityforum.org/Measures\\_List.aspx](http://www.qualityforum.org/Measures_List.aspx).
- <sup>39</sup> McGlynn, Asch, Adams et al., “Quality of Health Care,” 2003; McGlynn, Kerr, Asch, “New Approach to Assessing,” 1999.
- <sup>40</sup> See [www.symmetry-health.com/products/product\\_SETG.php](http://www.symmetry-health.com/products/product_SETG.php); J. L. Adams, A. Mehrotra, J. W. Thomas et al., “Physician Cost Profiling—Reliability and Risk of Misclassification,” *New England Journal of Medicine*, March 18, 2010 362(11):1014–21.
- <sup>41</sup> See [www.hospitalcompare.hhs.gov/](http://www.hospitalcompare.hhs.gov/).
- <sup>42</sup> A. C. Enthoven and L.A. Tollen (eds.), *Toward a 21st Century Health System: The Contributions and Promise of Prepaid Group Practice* (San Francisco: Jossey Bass, 2004).
- <sup>43</sup> K. Grumbach, J. Coffman, K. Vranizan et al., “Independent Practice Association Physician Groups in California,” *Health Affairs*, May/June 1998 17(3):227–37.
- <sup>44</sup> American Hospital Association, *Trendwatch Chartbook 2010: Trends Affecting Hospitals and Health System* (Chicago: AHA, Spring 2010), <http://www.aha.org/aha/research-and-trends/chartbook/index.html>.
- <sup>45</sup> Medicare Payment Advisory Commission, *Report to the Congress: Improving Incentives in the Medicare Program* (Washington, D.C.: MedPAC, June 2009), [http://www.medpac.gov/documents/jun09\\_entirereport.pdf](http://www.medpac.gov/documents/jun09_entirereport.pdf).
- <sup>46</sup> 42 CFR Part 425, Department of Health and Human Services, Centers for Medicare and Medicaid Services, “Medicare Program; Medicare Shared Savings Program: Accountable Care Organizations,” CMS-1345-P, <http://edocket.access.gpo.gov/2011/pdf/2011-7880.pdf>.
- <sup>47</sup> National Committee for Quality Assurance, [www.ncqa.org/tabid/631/Default.aspx](http://www.ncqa.org/tabid/631/Default.aspx).
- <sup>48</sup> See [www.pcpcc.net/content/joint-principles-patient-centered-medical-home](http://www.pcpcc.net/content/joint-principles-patient-centered-medical-home).
- <sup>49</sup> See <http://recognition.ncqa.org/>.
- <sup>50</sup> See [http://healthit.hhs.gov/portal/server.pt/community/healthit\\_hhs\\_gov\\_state\\_health\\_information\\_exchange\\_program/1488](http://healthit.hhs.gov/portal/server.pt/community/healthit_hhs_gov_state_health_information_exchange_program/1488).
- <sup>51</sup> See above for State Health Information Exchange program awardees; and <http://healthit.hhs.gov/portal/server.pt?open=512&mode=2&objID=3378> for Challenge Grant awardees.
- <sup>52</sup> See [http://healthit.hhs.gov/portal/server.pt/community/healthit\\_hhs\\_gov\\_onc\\_beacon\\_community\\_program\\_improving\\_health\\_through\\_health\\_it/1805](http://healthit.hhs.gov/portal/server.pt/community/healthit_hhs_gov_onc_beacon_community_program_improving_health_through_health_it/1805).
- <sup>53</sup> Ibid.

### ABOUT THE AUTHORS

[Laura Tollen, M.P.H.](#), is Senior Health Policy Leader with the Kaiser Permanente Institute for Health Policy. She can be e-mailed at [laura.a.tollen@kp.org](mailto:laura.a.tollen@kp.org).

[Alain Enthoven, Ph.D.](#), is Marriner S. Eccles Professor of Public and Private Management (Emeritus) at the Stanford University Graduate School of Business.

[Francis J. Crosson, M.D.](#), is Senior Fellow at the Kaiser Permanente Institute for Health Policy and chair of the Council of Accountable Physician Practices.

[Nancy Taylor, M.B.A.](#), is Vice President for Public Policy, External Relations, and Communications at The Permanente Federation, as well as Executive Director of the Council of Accountable Physician Practices.

[Anne-Marie J. Audet, M.D., M.Sc.](#), is Vice President for Quality Improvement and Efficiency at The Commonwealth Fund.

[Cathy Schoen, M.S.](#), is Senior Vice President for Policy, Research, and Evaluation at The Commonwealth Fund.

[Murray Ross, Ph.D.](#), is Vice President with Kaiser Foundation Health Plan, Inc., and director of the Kaiser Permanente Institute for Health Policy.

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