THE VERMONT ACCOUNTABLE CARE ORGANIZATION PILOT: A COMMUNITY HEALTH SYSTEM TO CONTROL TOTAL MEDICAL COSTS AND IMPROVE POPULATION HEALTH

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ABSTRACT: For the last two years, Vermont's Health Care Reform Commission has been exploring how the accountable care organization (ACO) model might be incorporated into the state's comprehensive health reform program. Three Vermont provider organizations are now in various stages of planning an ACO as part of a national learning network. This report identifies four levels of geographic scale that support an ACO and five functional capabilities needed for its success. Because rural settings make potential ACOs more dependent on supporting infrastructure, the authors recommend a pilot community approach. Most small and medium-sized communities will need state or regional support for defining a common financial framework for all payers, creating a consolidated performance pool involving multiple payers, developing and expanding both medical homes and IT tools, and providing other technical support, training, and start-up funding. Federal health reform provides much-needed support for Medicare participation and rapid expansion of electronic medical records.

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EXECUTIVE SUMMARY

BACKGROUND

The accountable care organization (ACO) has emerged as a promising component of health care reform. An ACO is a health care provider organization that is accountable for meeting the health needs of a defined population, including the total cost of care and the quality and effectiveness of services. For the last two years, the Vermont Health Care Reform Commission (HCRC) has been charged with investigating how ACOs might be incorporated into the state's comprehensive health reform program. Three Vermont provider organizations are now in various stages of creating an ACO, with the objective of implementing the first site in 2011 as part of a national ACO Learning Network.

In 2008, the Vermont state legislature instructed HCRC to assess the feasibility of a pilot project based on the ACO model. Based on HCRC's findings, legislation was passed supporting the implementation of at least one pilot ACO as the next phase of health care payment reform. The ultimate goal is to achieve delivery system reform based on the development of a true community health system that both improves the health of the population it serves and manages medical costs at a population level.

Key stakeholders in the ACO pilot program have included the state's three major commercial insurers, three community hospitals and one tertiary hospital, the state hospital association, the state medical society, the business community, state health reform staff, the Vermont Department of Health, the Department of Banking, Insurance, Securities, and Health Care Administration, and the legislature.

This report provides an in-depth look at Vermont's ACO pilot program, beginning with its origins in the state's broader health reform efforts. While some of the findings are relevant primarily to small to medium-sized community provider networks in rural settings like Vermont, we believe that many of them apply to ACO development in general.

KEY FINDINGS

The ACO cannot exist in a vacuum. It is essential to simultaneously create or enhance capabilities at the primary care practice level, as exemplified by the patient-centered medical home; at the community health system level; at the state level, with infrastructure to support health information technology, payer payment reforms, and technical support services; and at the national level, chiefly through Medicare participation. Our experience to date has shown that we know how to build these capabilities at the primary care

practice level and at the state level. However, the real action in "bending the medical cost curve" is at the community level.

The working design for an ACO pilot is built on three major principles: 1) local accountability for a defined population of patients; 2) payment reform based on shared savings; and 3) performance measurement, including patient experience data, clinical process and outcome measures. All ACOs should be structured as provider-based organizations with a network of primary care providers that elect to participate in the ACO. The model should also have a patient population of sufficient size to support performance measurement and the stability of expenditure projections. In rural areas like Vermont, commercial payers may have to participate in a consolidated shared-savings pool in order to achieve the minimum population. The ACO must be a legal entity capable of internally distributing shared-savings payments and accepting incentive payments from payers and also have an organizational and governance structure capable of coordinating providers into a single ACO entity.

ACO pilots need to have threshold capabilities in five areas to get started. First, the ACO must be able to manage the full continuum of care settings and services for its assigned patients, beginning with a patient-centered medical home approach to primary care. Second, it must be financially integrated with both commercial and public payers, and all payers need to participate, so that at least 60 percent to 70 percent of patients in a provider's practice can be eligible for inclusion in a shared-savings model. Third, a health information technology platform that connects providers in the ACO and allows for proactive patient management is essential, along with a strong financial database and reporting platform for managing the global medical budget. Fourth, physician leadership, as well as the commitment of the local hospital CEO and leadership team, is vital to driving changes in process, cost structure, and mission. Finally, it must have the process improvement capabilities required to change both clinical and administrative processes to improve the ACO's performance so that it can achieve its financial and quality goals.

CONCLUSIONS

Community health systems are the focal point of health care delivery reform, as they are responsible for care integration and coordination of the service network that provides the bulk of care to a patient population. The ACO is a promising financial incentive model that could support the development of a community health system, but it still needs to be tested in pilots. This will require participation of public payers, particularly Medicare, in a common multipayer framework to realize their potential.

Some large integrated care systems have the scale and resources to work concurrently at practice, community, and regional/state levels to support ACOs. However, most small and medium-sized communities and care systems will need state and/or national support for defining a common financial framework for all payers, supporting the development and expansion of primary care medical homes, information technology (IT) support, technical support, and training and start-up funding. A rural setting makes potential ACOs even more dependent on state and national support. Rural models will require either a consolidated performance pool involving multiple payers or an expansion of the ACO to include multiple hospitals, making it possible to achieve the necessary critical mass of patients needed to support statistically meaningful measures of performance.

KEY RECOMMENDATIONS

Some important lessons have emerged from the Vermont ACO pilot experience thus far:

1. National and state sponsors should proceed with pilots and learning collaboratives in diverse settings, including smaller communities, to learn more about success factors in developing ACOs. A critical pilot component is funding for a local provider infrastructure and community resources.
2. An ACO's success depends on committed leadership from physicians and other key stakeholders, multipayer participation, a patient-centered primary care model, and robust IT support and reporting.
3. Clusters of ACOs within selected states would encourage the development of the statewide infrastructure needed by ACOs. States can also support ACOs by mandating Medicaid participation in ACO pilots through a state waiver, implementing IT tools and a health information exchange, and sponsoring patient self-management programs, among other options.
4. ACO growth in Vermont and elsewhere must be coordinated with the broader payment and delivery system reforms included in the recently enacted health reform bill. Federal policy support will be critical to enabling a fair test of the ACO model, including Medicare participation in ACO pilots by 2011, federal approval of state waiver requests for Medicaid participation in ACO pilots, and implementation of Medicaid/Medicare advanced primary care model multipayer demonstrations.

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INTRODUCTION

The accountable care organization (ACO) has emerged as a promising component of health care reform. After attracting attention in the media and in the debate leading up to the enactment of reform, the ACO model will now be tested in federal demonstrations authorized by the new legislation.[1,2,3]

In essence, an ACO is a health care provider organization that is accountable for meeting the health needs of a defined population, including the total cost of care and the quality and effectiveness of services. While researchers have articulated the basic concept and rationale for the ACO, and working examples of it exist in a small number of large, integrated delivery systems, little is known about the practical issues involved in creating a successful ACO out of a typical community provider network (e.g., a local hospital and a mix of hospital-based and independent physicians).[4]

For the last two years, the Vermont Health Care Reform Commission (HCRC) has been charged with exploring how the ACO might be incorporated into Vermont's comprehensive health reform program. Three provider organizations are now in various stages of creating an ACO, with the objective of implementing the first site in 2011. They are participating in the national ACO Learning Network organized by the Brookings Institution's Engelberg Center for Health Care Reform and the Dartmouth Institute for Health Policy and Clinical Practice with the hope that at least one Vermont location will become a pilot site in the national learning collaborative.

This report first provides an overview of Vermont's broad set of health reform initiatives, focusing particularly on the delivery system reforms designed to create a more effective community health system—the foundation for Vermont's ACO initiative. The report then translates the generic principles of an ACO into a working design for a Vermont ACO pilot and summarizes the major findings and recommendations from our work to date. While some of the findings are relevant primarily to small to medium-sized community provider networks in rural settings like Vermont, we believe that many of them apply to ACO development in general.

About This Project

Key stakeholders in Vermont's accountable care organization pilot program have included the three major commercial insurers (Blue Cross Blue Shield of Vermont, MVP Health Care, and CIGNA), the state Medicaid agency (Office of Vermont Health Access, or OVHA), three community hospitals and one tertiary hospital, the state hospital association, the state medical society, the business community, the state's health care reform staff, the Vermont Department of Health, the Department of Banking, Insurance Securities and Health Care Administration (BISHCA), and the legislature. Support for the process was provided by HCRC staff and consultants, the Dartmouth Institute for Health Policy and Clinical Practices, and the Brookings Institution.

The process has involved a combination of broad stakeholder meetings, focused working sessions with leadership teams from specific provider sites and with the commercial payers, and more recently extensive interaction with the Dartmouth and Brookings team that is developing the national ACO learning collaborative. In trying to determine the functional roles of an ACO, project staff interviewed five of the provider systems of the national high-performing organizations identified by The Commonwealth Fund, which has provided financial modeling support for the pilot.[5]

BUILDING A COMMUNITY HEALTH SYSTEM IN VERMONT

In 2006, Vermont enacted legislation that created one of the most ambitious health care reform programs in the country.[6] Building on foundations laid in the previous five years, it attempted to achieve sustainable reductions in the number of the uninsured, accelerate the implementation of health information technology, and "bend the medical cost curve" by transforming the prevention and treatment of chronic illnesses. The chronic illness initiative, called the Blueprint for Health, was originally based on the Chronic Care Model developed by Ed Wagner.[7,8] The Blueprint added a strong focus on illness prevention and was one of the original members of the Institute for Healthcare Improvement's Triple Aim learning collaborative. The Triple Aim seeks to optimize improved population health, total per capita costs for care, and the care experience,[9] and a major theme of Vermont's health reform has been improving population health while controlling costs.

Each year since the passage of its initial health reform legislation, subsequent acts have strengthened and broadened Vermont's health reform programs. In 2007, the Blueprint for Health was expanded to create Enhanced Medical Home pilot programs in three Vermont communities covering 10 percent of the state's population. The Enhanced Medical Home pilot added all-payer payment reform for primary care practices, a new shared resource for primary care called the Community Health Team, and a formal assessment of community risk factors with an integrated prevention action plan.[10] In 2008, the legislature instructed HCRC to assess the feasibility of a pilot project based on the Accountable Care Organization model.[11] Working with a broad set of stakeholders,

the commission created a working design for the ACO that included the Triple Aim incentives and identified key tasks, issues and barriers.[12] Based on these findings, the state passed legislation supporting the implementation of at least one pilot ACO as the next phase of payment reform.[13] In order to achieve desired delivery system changes, payment reform needed to expand beyond the primary care practices affected by the Enhanced Medical Home pilots to include local specialists and the community hospital. The ACO's shared-savings model was needed to capture some of the financial benefits of the medical home within the local community so that they could be reinvested in meeting the needs of the population, while helping to mitigate the incentives to increase costs that are inherent in fee-for-service payment.

The cumulative effect of this evolution of legislation and program design over the last four years is a strategy of delivery system reform based on the development of a true community health system that both improves the health of the population it serves and manages medical costs at a population level. This requires coordination of care across sectors and reduced fragmentation, which the ACO is explicitly designed to provide. However, we have found that the ACO cannot exist in a vacuum. It is essential to concurrently create or enhance functional capabilities at other geographic scales. In particular, the scales that we have found useful in our conceptual framework for planning and design are:

1. **Primary care practice level.** This is the foundation of integrating care to meet the needs of each patient, as exemplified by the patient-centered medical home. This is a particularly challenging task for small practices, which have to coordinate care across multiple settings and support patients in long-term behavior changes. The Blueprint for Health has focused on building the capacity for these tasks in its Enhanced Medical Home pilot programs.
2. **Community health system or ACO level.** The ACO is one example of what Fisher has called the "neighborhood for the medical home."[14] This geographic level starts with a local network composed of the community hospital, its medical staff of primary care practices and specialist physicians, and other key caregivers who work within a geographic area. Eventually, it needs to grow to include a broad array of other public health and community-based resources that are essential to maintaining the health of a population. Indeed, one could imagine an ACO model that had this broader scope of responsibility and was governed as a not-for-profit community health foundation, where providers served as a key component of the governance structure—along with other community representatives. The Blueprint Community Health Teams have begun this process

by bringing in a public health specialist responsible for working with local providers to develop a community health assessment and activation plan for each pilot community.

3. **State level.** The practice and community health system levels are dependent upon supporting infrastructure that needs to be created at the state level. Some examples are: health information technology support, such as the creation of a regional health information exchange; design and implementation of all-payer payment reforms; and the creation of technical support services and training programs for the dissemination of best practices and process improvement skills. Given Vermont's size, all of these services have been implemented at the state level, but larger states may need to use regional structures.
4. **National level.** Given the importance of Medicare in virtually all community provider networks, transformative change is ultimately dependent upon Medicare participation, particularly in payment reforms. Vermont took the unusual approach of beginning its delivery system reform using state funds to pay for Enhanced Medical Home practices on behalf of Medicare patients. This was possible as a start-up strategy to ensure that reforms were as broad-based as possible, but it was neither sustainable nor scalable. In addition to the federal government, other national level resources, such as the learning collaboratives organized by the Institute for Healthcare Improvement for the Triple Aim initiative and by the Brookings Institution and the Dartmouth Institute for practical ACO implementation support, can provide essential resources for the community health system.

The four levels of geographic scale are interdependent, interacting through five functional capacity categories, which together create the desired integration:

- service integration across levels and settings of care, for example, the integration of health care, public health, and social services to support population health;
- financial integration, for example, local management of integrated budgets at the community level;
- governance, which provides leadership and establishes accountability;
- information tools, including both information technology deployment and the development of reports to support care and assess performance; and
- process improvement skills used to design and implement changes to improve performance.

These functional capabilities are needed at different geographic levels for the ACO to achieve its desired integration. Combining these two dimensions (functional capabilities and geographic levels), we get the grid illustrated in Exhibit 1, which is the conceptual framework for presenting the capabilities needed to support ACO formation. The entries in each element of the grid represent both existing supportive initiatives which the ACO will build on, as well as new capabilities (in italics) that need to be created.

Our experience to date has shown that we know how to build these capabilities at the primary care practice level and at the state level. However, the real action in "bending the medical cost curve" is at the community level. Our implementation strategy has been based on using pilot communities built around local hospital service areas. We face a major challenge in going to the next step and building the new needed capabilities at the community health system level. Viewed within this conceptual framework, the ACO has the potential to fill a critical missing link in building a community health system. Our working design for the ACO begins to fill in the details of how the ACO would work and the key tasks, issues, and barriers involved. The remainder of this report will present: 1) the highlights of our findings regarding a working design for the ACO pilot; 2) some initial observations from our work to date and; 3) our recommendations.

Exhibit 1. Functional Capabilities by Geographic Levels of Integration for a Vermont Community Health System

Italics indicate new capabilities that will need to be created.

	Service Integration	Financial Integration	Governance	Information Tools	Process Improvement
Primary Care Practice	Proactive care team from chronic care model Patient-centered medical home	Primary care physician care management fee for medical home	Physician champion(s)	DocSite clinical tracking system and registry Electronic health record and interfaces	Clinical microsystems training Practice-specific projects
Community Health System	Community health team Community health assessment and plan *ACO clinical care coordination*	*ACO shared-savings incentive* *Setting and managing global medical budget*	Physician and executive champions *ACO governance and legal structure*	DocSite clinical and population reports *ACO financial reports* *ACO quality reports* Population health assessment	Hospital/PHO/ACO quality improvement team *Achieving ACO financial and quality improvement targets*
State/Regional	Learning collaboratives on Chronic Care Model Blueprint for Health pilot programs Self-management training programs (Healthier Living) Obesity program (Fit and Healthy) Adult immunization program	All-payer medical home payment and patient attribution model *ACO shared-savings pool for commercial payers* State Medicare and Medicaid pilots *ACO financial impact model*	Director of health care reform Blueprint executive director CEO of Vermont Information Technology Leaders (VITL) Governor Legislature (Vermont Health Care Reform Commission)	Health information technology regional extension center (VITL) Health IT fund All-payer claims database (Vermont Health Insurance Claims Uniform Reporting and Evaluation System) Blueprint development of DocSite and data templates Department of Health public health data and reporting	Blueprint formative evaluation Vermont Program for Quality Health Care Dartmouth Population Health Research Center collaborative
National/Federal	ACO collaborative CMS advanced primary care pilots ARRA community-based wellness programs	ACO collaborative *Patient-attribution models for ACO* CMS Medicare and Medicaid pilots Foundation support	U.S. Department of Health and Human Services; CMS Five-state medical home coalition Congress	HITECH for health information exchange and electronic health records	Institute for Healthcare Improvement learning collaboratives *Dartmouth Clinical Microsystems quality improvement tool kit* *ACO collaborative core quality improvement measures*

Abbreviations: ACO = accountable care organization; ARRA = American Recovery and Reinvestment Act of 2009; CMS = Centers for Medicare and Medicaid Services; HITECH = Health Information Technology for Economic and Clinical Health Act of 2009; PHO = physician–hospital organization.

Note: DocSite is a Web-based clinical tracking system.

A WORKING DESIGN FOR AN ACO PILOT

Our working design represents a synthesis of the ACO pilot design work, the Vermont experience with the Blueprint for Health pilot communities, and input from the staff developing the Brookings/Dartmouth national ACO Learning Network.

Pilot Community Strategy

We have found that a pilot community strategy is an appropriate tool for building a community health system for a number of reasons. Given the absence of successful models, we have much to learn about how to build and link the key components of a community health system in different types of community settings. The selection process used for choosing our pilot communities allows us to identify "early adopters" that have committed leadership, broad provider support, and other critical factors for maximizing the likelihood of success. Limiting the number of communities enables us to concentrate scarce resources and also reduces barriers to change. For example, it would have been impossible for us to implement the all-payer medical home payment reform on a broad basis in the state. Finally, we have found that even within a small, relatively homogeneous state like Vermont, health care is indeed local and we need to customize the tactics and structure of our interventions to adapt to local needs and conditions. Importantly, the principles are the same across communities, but the implementation strategies vary. In order for desired changes to take place within the ACO, the pilot must have a minimum commitment of three to five years.

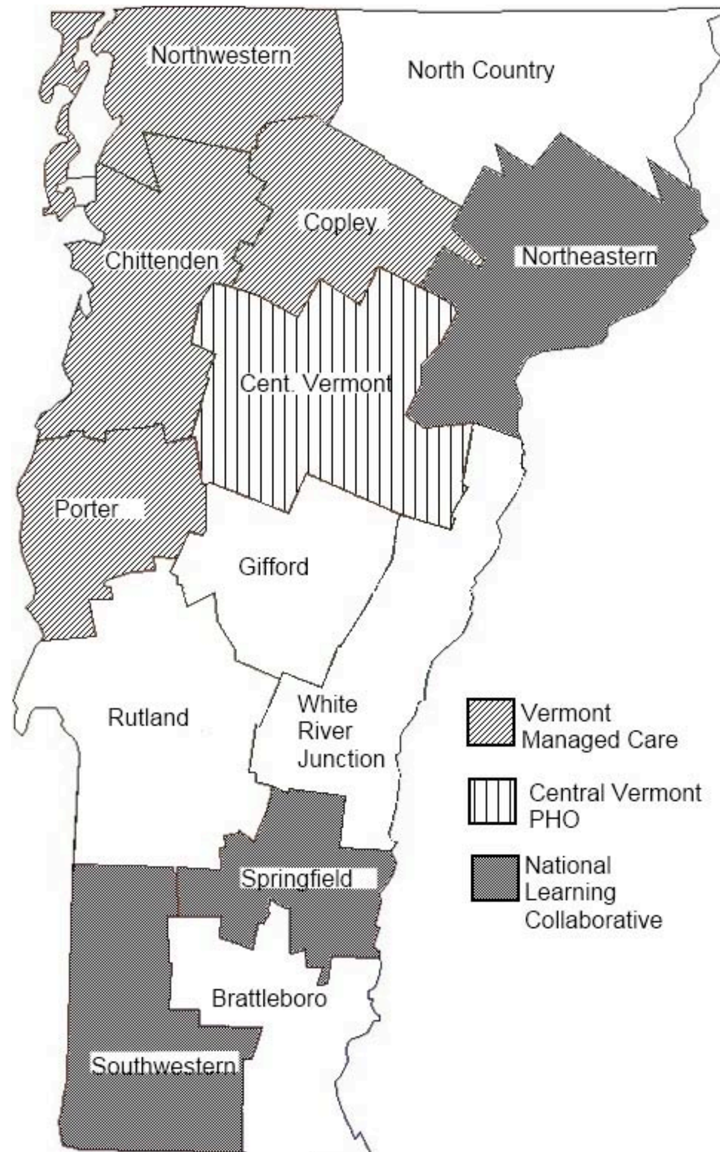
Exhibit 2 illustrates the diversity of potential Vermont ACO pilot sites and presents a brief profile of local provider networks that are either already involved in the national Learning Network or collaborating with commission staff in the ACO initiative. The collaboration involves serving as a pilot site for the ACO financial model and considering use of an existing integrated physician–hospital organization (PHO) structure to create an ACO in the future. The profile includes the legal structure of an integrated organization, which ranges from traditional PHOs to a unique model where a federally qualified health center has a critical access hospital as a wholly owned subsidiary. We believe that it is essential to have the local hospital as an integral component of the ACO. The hospitals involved in Vermont range from tiny critical access hospitals to a large academic medical center. The scale of the ACO is determined by the size of the population served by its primary care provider network. The minimum scale needed for the ACO will be discussed later, but all of the sites meet the requirements established to date.

Exhibit 2. Profile of Potential Vermont ACO Sites

	ACO Legal Structure	Hospital Type	Staffed Beds	Primary Care MDs	Mid-Level MDs	Specialist MDs	Total HSA Population
A. National ACO Learning Network							
Northeastern Vermont Regional Hospital	To be determined	Critical Access	25	21	14	45	27,700
Southwest Vermont Medical Center	United Health Alliance (PHO)	Community	75	37	12	94	40,100
Springfield Hospital	Vertically integrated FQHC with hospital subsidiary	Critical Access	25	16	11	12	28,300
B. Other Potential ACO Sites							
Central Vermont Medical Center	Central Vermont PHO	Community	57	35	13	94	66,400
Gifford Medical Center	To be determined	Critical Access	25	14	16	30	14,300
Vermont Managed Care							
Copley Hospital	PHO (Vermont Managed Care)	Critical Access	25	8		18	26,700
Fletcher Allen Health Care	PHO (Vermont Managed Care)	Teaching	445	119		450	171,000
Porter Hospital	PHO (Vermont Managed Care)	Critical Access	25	30		23	28,300
Northwest Vermont Medical Center	PHO (Vermont Managed Care)	Community	55	14		42	45,000

The map in Exhibit 3 shows the geographic distribution of the hospital service areas associated with these provider networks. The network of potential sites offers the prospect of having more than half of the state's population served by an ACO within three years. The four independent provider networks affiliated with Vermont Managed Care provide an excellent example of a regional structure which could service several hospitals. This type of regional structure is being considered as an option in other parts of the state, so it will probably not be necessary to have an ACO entity for each provider network.

Exhibit 3. Location of Vermont Potential ACO Sites



Principles for the ACO Pilot

The working design for the ACO model is built on three major principles. The first is local accountability—the ACO will comprise a local delivery system which is accountable for a defined patient population. Given the natural care patterns of patients and provider referral patterns, no "lock-in" to the ACO is necessary.[15] The ACO patient population will be determined based on the historical patterns of patients who visited providers in the ACO, using a methodology developed by Dartmouth. Vermont has been using a similar patient attribution model for its Enhanced Medical Home pilots and it has worked well.

The second principle is payment reform. To address misaligned incentives between fee-for-service payments and the need to better support providers taking steps to improve quality at a lower overall cost, the ACO model includes payment reform based on shared savings. An ACO's expenditures for its patient population are projected forward based on historical spending. If the ACO meets quality thresholds and keeps expenditures below the global budget, the ACO is eligible to receive shared savings.

The global budget for each ACO will be based on historical trends and adjusted for patient mix, creating incentives for providers to be accountable for cost, quality, and the capacity of the local delivery system. Savings can be shared among all stakeholders and allow for investments (e.g., chronic disease management or prevention programs) that can improve care and slow cost growth.

Potential ACOs are currently in varying stages of integration and sophistication. To create incentives for increasingly coordinated behavior at all sites, multiple types of payment reform could be offered. The simplest option is shared savings—providers do not assume any of the risk for above-target spending. This option is designed for newly formed entities with little experience managing care or risk. More sophisticated provider organizations, such as Vermont Managed Care (in northwestern Vermont) or the United Health Alliance (in Bennington) could consider shared savings plus risk. Here, providers assume a portion of the risk for above-target spending (e.g., 20%) and are eligible to keep a greater portion of the savings. This risk would probably be assumed through a withhold mechanism to minimize the need for separate reserves. A third option is shared savings plus partial capitation, where providers accept partial capitation payments.

Approaches being considered in the Vermont pilot sites range from simple shared savings for two sites to partial capitation for a PHO that has had a decade of experience in managing health maintenance organization (HMO) risk contracts. That PHO has been

using primary care capitation in combination with a global risk-sharing contract that combines stop-loss insurance and the use of withholds.

The final principle for the ACO is performance measurement. Measuring broader dimensions than just medical expenses is essential to ensure that appropriate care is being delivered and that cost savings are not the result of limiting necessary care. ACOs will report patient experience data in addition to clinical process and outcome measures. Performance reports also can identify opportunities to improve care while reducing costs, by highlighting apparent overuse (e.g., frequent readmissions for chronic conditions or high volumes of imaging). The Brookings/Dartmouth ACO collaborative is generating a minimum starter set of performance measures as an initial step toward pilot implementation. Through the Blueprint for Health community assessments and collaboration with the Dartmouth Population Health Research Center, Vermont has been exploring an additional set of population health-based measures for its ACO pilots that would be consistent with the Institute for Healthcare Improvement's Triple Aim initiative. Pilot sites themselves also can add other measures to the common core set of measures.

Structural Characteristics of the ACO Pilot

Many current organizational structures could potentially qualify as an ACO, including multispecialty group practices, independent practice associations, PHOs, and integrated health systems. While the composition of ACOs will look different in local markets, based on our work in Vermont, there are a few components that should be consistent among organizations.

Provider membership. The ACO is inherently a provider-based organization. Since patients are affiliated with the ACO based on their primary care provider, the starting point for provider membership is a network of primary care providers who elect to participate in the ACO. And, since patients are attributed to the ACO based on their choice of provider, each primary care physician can participate in only one ACO at any given time. While the generic ACO model does not require a hospital affiliation, our assessment is that the local hospital should be a committed participant in the ACO initiative in order for it to be most successful. Similarly, we strongly encourage key specialty physician membership in order to bring them into the change process. Providers who are not used for patient assignment (e.g., most specialists) can be members of multiple ACOs. However, physician participation cannot be a casual commitment. The stress and challenges of system reform can only be met by a group of providers uniting for a common purpose. Though hard to measure, a shared vision is what will keep the provider group focused on its goals and sustain it through inevitable conflicts.

Minimum scale of population. The ACO must have a patient population of a sufficient size to support performance measurement and the stability of expenditure projections. Early projections identified by Elliot Fisher and colleagues put the minimum requirements at 5,000 Medicare beneficiaries, 10,000 Medicaid beneficiaries, or 15,000 commercial beneficiaries in any combination.[16] As shown in Exhibit 2, most of the Vermont pilot communities are small and may be slightly below these targets, which may affect the performance measures that can be used. The commercial payers will definitely have to participate in a collaborative shared-savings pool. For this reason, we have developed a methodology that achieves the benefits of combining beneficiaries from the three major commercial payers without causing potential cross-subsidies between them.

An example of the collaborative shared-savings pool is shown in Exhibit 4. Each of the three major commercial payers negotiates a per capita global budget based on its current provider contracts and population characteristics and tracks the actual performance of the ACO for that payer's members during the year. At the end of the year, instead of each payer calculating a settlement for only its members, the results of the three payers are aggregated. If the ACO has favorable performance and is under budget for all three payers, the results are the same as if the settlements were done independently (Scenario 1). However, if the ACO has a negative result and is over budget for one of the payers, the shared-savings pool has the results shown in Scenario 2. The payer with a negative result contributes nothing to the sharing pool, but the contributions of the other two payers are reduced over what they would have been if settled independently, in order to compensate for poorer overall performance. Thus, even though they are collaborating, no payer ever has a larger liability than it would have incurred for its own members. In addition, since the settlement of the pool is based on aggregate numbers verified by the state, no proprietary detail has to be shared between payers. The state would have access to the details of each settlement and would be able to verify the results.

Exhibit 4. Example of a Multipayer Collaborative Shared-Savings Pool

			Scenario 1 All Payer Targets Achieved			**Scenario 2 One Payer Target Not Achieved**		
Payer	Lives	Target	Actual	Savings	ACO share	Actual	Savings	ACO share
1	8,000	$310	$308	$16,000	$8,000	$308	$16,000	$2,444
2	5,000	$280	**$278**	$10,000	$5,000	**$285**	($25,000)	$0
3	2,000	$290	$280	$20,000	$10,000	$280	$20,000	$3,056
				$46,000	$23,000		$11,000	$5,500
ACO potential share of savings		50%						

Legal structure. The ACO must be a legal entity capable of internally distributing shared-savings payments. The ACO must be able to accept incentive payments from payers and have an organizational and governance structure capable of coordinating providers into a single ACO entity. The three Vermont potential pilot sites shown in Exhibit 2 that are actively participating in the National ACO Learning Network have quite different legal structures. Southwest Vermont Medical Center has the United Health Alliance, a well-established PHO with 10 years of experience in managing risk-sharing contracts. Springfield Hospital has a new integrated system where the federally qualified health center is the parent corporation for the critical access hospital subsidiary. This integrated care system with an FQHC parent corporation is a possible prototype for an ACO based on a broader community health foundation model. The last site, Northeastern Vermont Regional Hospital, is a community hospital with a physician network that includes an FQHC, employed physicians and independent physicians, and has not yet designed its integrated legal structure for the ACO.

Another legal concern is the potential antitrust violation caused by multiple payers collaborating to create a uniform incentive structure. Vermont provided a legal framework for potential antitrust and other legal concerns through legislation that directed the state insurance department to host the conversations between the three major commercial insurers and interested providers.

Functional Capabilities of the ACO Pilot

Structure is a starting point for the ACO, but it also needs to be able to have the functional capabilities to accomplish quite difficult tasks. While some of this capacity will develop over time as the ACO matures, the assessment based on our work in Vermont was that ACO pilots need to begin with threshold capabilities in each of the five functions identified in the conceptual framework in Exhibit 1.

Broad scope of service coordination. First, the ACO must be able to manage the full continuum of care settings and services for its assigned patients. Though the details of exactly how to best to do this will vary, Vermont has recommended that the ACO implement a patient-centered medical home approach to primary care as a basic building block for care coordination and to reinforce the ties of patients to their primary care providers. The Community Health Team, which is included in the Vermont Enhanced Medical Home pilots, is an innovative approach to coordinating both care and preventive services in the community. The Community Health Team has five full-time staff to support a population of about 20,000 active patients who are served by the medical home practices. The exact composition of the team varies from site to site, but typically

includes a nurse care coordinator, mental health staff and nonclinical community health workers. The costs of these teams are shared by all of the payers and all patients in the practices have access to them. Second, the scope of services included in the global budget must be comprehensive in order to ensure effective coordination, with Vermont recommending that it include outpatient prescription drugs and mental health services.

Financial integration. Successfully managing population-based global budgets is a fundamentally different process than controlling traditional organization-centered budgets. It will require technical assistance and strong support from both service integration and information technology. Vermont's commercial payers have extensive experience in supporting provider organizations in such a process, but the timeliness and robustness of financial reporting and/or claims data from the public payers are major potential issues. The process for setting and annually renegotiating the details of the shared-savings pool such as the global budgets, risk-sharing options and consequences, and risk limitations, is also complex. The Vermont feasibility study acknowledged these concerns, but provider organizations had enough experience with commercial risk-sharing contracts that they did not see these issues as a prohibitive barrier. However, the unknowns regarding how public payers would structure their participation were a major concern.

Achieving critical mass through all-payer participation. An attractive attribute of the ACO model is the ability to keep fee-for-service payment systems in place and avoid large administrative costs to overhaul the payment system. However, this is also a notable drawback of the model. The "pull" of fee-for-service payments is strong and not easily combated by reform programs. To that point, it will be important that a critical mass of patients in a provider's practice—perhaps as much as 60 percent to 70 percent—be eligible for inclusion in the shared-savings model. This requires all payers (Medicare, Medicaid, and commercial payers) to participate, in order to create a common incentive for change in care delivery. Vermont has been successful in implementing all-payer payment reform for its enhanced medical home pilots, and indications are that it will also be able to do so for its proposed ACO pilot. Also, Vermont's legislature has directed its Medicaid office (Office of Vermont Health Access) to prepare a plan for participating in the ACO shared-savings pool and filing the necessary waiver by July 2010. The big unknown is Medicare. It is not feasible for Vermont to pay Medicare's share of the ACO pilot incentive, as it did for the medical home pilot. The federal health reform legislation provides authority for Medicare to participate in multipayer ACO pilots starting in 2012. Some Vermont providers are willing to begin an ACO pilot using just commercial payers,

but they must see a clear path for full participation by Medicare and other public payers within a year or so.

Another major concern of the Vermont potential pilot sites is the ACO's impact on the financial viability of the local community provider system, particularly small community hospitals. It could be possible for the ACO to implement changes that would shift utilization and revenues abruptly enough that the ACO would thrive but the community hospital would not. Local hospitals have been willing and able to make changes in their services and cost structure, but they have requested a financial planning tool that would let them simulate potential changes, at the individual ACO level, in service use and cost structure over a three-year period. Under a grant from The Commonwealth Fund, such a tool is now being developed. It contains three components: an intervention model that estimates changes in utilization such as reduced admissions or ER visits; a cost analysis model that uses the hospital's financial tools to estimate the impact of utilization changes on, for example, fixed and variable costs and contribution to margin; and an incentive model that calculates the estimated shared savings resulting from the intervention. The tool has completed testing at the initial site, Gifford Medical Center. The second site, Northeast Vermont Regional Hospital, is beginning work on their version of the tool.

Local leadership and governance. Unequivocally, physician leadership and having a local physician champion are components of success. Key leaders are responsible for explaining payment reform and the quality improvement environment, curbing irrational fears of change, and pushing through the inevitable challenges that come with local delivery system reform. Administrative leadership is also critical, especially in ACOs which include the local community hospital. The commitment and engagement of the hospital CEO and leadership team are vital to driving the changes in processes, cost structure, and mission that are likely to result from a successful ACO. A governance structure that includes the key providers in the ACO is essential to transform it from a legal shell to a functioning organization. Achieving continuity in local governance and leadership has been a challenging task for the Vermont pilots. Southwest Vermont Medical Center has a PHO with a board with over a decade of governance experience, but the local hospital executive team has just gone through a major turnover. Springfield Hospital just formed a new integrated structure in the last year and hired a new CEO. Northeastern Vermont Regional Hospital is still exploring an appropriate governance and legal structure.

Information tools. A health information technology (IT) platform that connects ACO providers and allows for proactive patient management is an essential prerequisite for potential ACOs. An electronic health record (EHR), while helpful, is not an adequate tool for effective care coordination and population-based management. Vermont's Blueprint for Health has used a Web-based registry and clinical tracking system (DocSite) as an important supplemental tool even for practices with a mature EHR.[17] A robust financial database and reporting platform is also critical to managing the global medical budget.

Process improvement. Making changes in clinical and administrative processes lies at the heart of improving the performance of the ACO so that it can achieve its financial and quality goals. These changes will affect all ACO stakeholders, so they need to be trained in process improvement skills and engaged in making them. Vermont has used a variety of training approaches to improve these skill sets, particularly in provider practices. The learning collaboratives in the Chronic Care Model sponsored by the Vermont Program for Quality Health Care (VPQHC) were a starting point. This has been followed by focused training in the Blueprint pilot communities on the Clinical Microsystems quality improvement tool developed by Dartmouth, and the continued shared learning through a series of learning communities organized by VPQHC.

Integration of Key Functions Across Levels in the ACO Pilot

The elements of the working design presented so far have described how the ACO pilot should be structured and what it needs to do. However, as we emphasized in the conceptual framework, the ACO is dependent upon support from other parts of the health care system. Each element has key relationships with other functions and other geographic scales (e.g., the community-level financial function of managing a global medical budget is dependent upon IT support, care coordination, and process improvement). The findings that we believe are the most critical are the interdependencies across geographic levels—some of the vertical slices of Exhibit 1 that illustrate the ways in which the ACO, a community-level structure, is dependent upon support from the other three geographic levels of activity. Following are some of the more important linkages we have identified through early work in Vermont.

Service integration. Service integration is an excellent example of the interplay between the three geographic levels of primary care practice, the community health system, and the state/region. While the ACO has responsibility for service integration for the population it serves, we believe that coordination at the primary care practice level is the foundation of this capability and is a prerequisite for a successful ACO.[18] We began

by implementing the Chronic Care Model and have evolved to the Enhanced Medical Home, which encompasses all care, not just chronic illnesses. The Community Health Team in the Enhanced Medical Home provides a shared resource for coordinating clinical care across settings, reinforcing desired behavior changes, and beginning to integrate prevention and public health services. Developing these capabilities has depended on state financial support, training, and technical expertise over five years through the Blueprint for Health and the Vermont Program for Quality Health Care. The Vermont Department of Health also has invested in resources for creating Wagner's "engaged and informed patient" by creating a statewide network of patient Healthier Living Workshops based on the Stanford Chronic Disease Self Management Program and by creating community resources for reducing obesity through its Fit and Healthy program.[19]

Financial integration. While the ACO must have substantial capabilities of its own for managing a population-based global budget, it is dependent upon support from the three other geographic levels. The medical home cannot be sustained without payment reform for primary care, in our case the per capita care management fee paid based on achieving National Committee for Quality Assurance criteria. The ACO is dependent upon state and federal support for ensuring the participation of all major payers and designing a common financial framework model for both the medical home and the ACO. It would be impossible for any single ACO in Vermont to do this on its own.

IT tools and reporting. The lifeblood of the ACO is reliable, timely information that supports care of the individual patient, proactive interventions for its defined population, and improvements of its core processes. This information starts at the practice level with the Web-based DocSite clinical tracking system, which provides flow sheets for individual visits, a registry for chronic illnesses, and population-based reports. If the practice has an EHR, we have found that the DocSite system provides significant additional functions, so automatic feeds are constructed from the EHR. The DocSite system also helps coordinate services among providers, since not all of them use or have access to an EHR. The state has played a major role in building these tools for the ACO and its members' use. It sponsored the development of the DocSite tool and paid for the licenses to make it available. Data flows from practices to a centralized database through Vermont Information Technology Leaders, Inc. (VITL), the statewide health information exchange, which has dealt with complex issues involved in sharing health information such as interoperability, a master patient index, privacy, and security. In 2008 the state created a seven-year Health IT Fund to both pay for the implementation of the state Health Information Exchange and support the purchase of EHRs for all independent primary care practices in the state. In 2009, the American Recovery and Reinvestment Act

provided federal support for this IT infrastructure. The financial information needed by the ACO has also been supported by the state through the development of an all-payer claims database, or Vermont Health Insurance Claims Uniform Reporting and Evaluation System (VHCURES).[20]

CONCLUSIONS

The community health system level is the focal point of health care delivery system reform. It is responsible for care integration and coordination of the service network that provides the bulk of care to a patient population. A population focus requires not only the development of both a community-based health assessment and an intervention plan that uses local resources to support healthy behaviors, but also the alignment of provider interventions to support improved health and chronic disease management.

The ACO is a promising financial incentive model that could support the development of a community health system, but it still needs to be tested in pilots. The pilots will require the participation of public payers, particularly Medicare, in a common multipayer financial framework to realize their potential. ACO pilot success is also more likely with key state and community level prerequisites, such as implementation of the medical home model, including primary care payment reform. The ACO and medical home are complementary reform strategies that support one another. Also, strong IT support is required for operations, reporting, and evaluation. These prerequisites require significant effort and time, which means that actual ACO formation will usually occur later in community health system development. We estimate that Vermont is six to 12 months away from completing its foundation work for ACO development, so the initial ACO pilot will not be operational until 2011.

Some large integrated care systems have the scale and resources to work concurrently at practice, community, and regional/state levels to support ACOs. However, most small and medium-sized communities and care systems will need state and/or national support for:

- defining a common financial framework for all payers;
- supporting the development and expansion of primary care medical homes;
- IT support for clinical tools, process improvement, information exchange, reporting, and evaluation;
- technical support and training; and
- start-up funding.

Finally, a balanced set of financial and quality incentives that includes measures of population health, such as the Triple Aim initiative, is a valuable framework for realigning incentives to drive desirable behavior and for addressing fears that the ACO is simply a ruse for reintroducing managed care capitation.

ACOs in a Rural Setting

We found no fatal flaws that would prevent ACO development in a more rural setting. However, achieving the necessary critical mass of patients needed to support statistically meaningful measures of performance may require either a consolidated performance pool involving multiple payers, or expanding the ACO to include multiple hospitals. The latter greatly complicates implementation issues, particularly governance. In addition, a rural setting makes potential ACOs even more dependent upon the availability of state and national infrastructure.

As Exhibit 2 shows, several Vermont community networks have an existing formal legal governance structure, such as a working PHO, which makes a sound starting point for an ACO pilot. However, expanding ACOs beyond these sites will be more difficult. Building an ACO in most small to medium-sized community provider networks will a require significant investment of time, energy, and money to create the local structure required to support essential ACO functional capabilities, particularly effective governance, which integrates key providers. It is unclear who will help fund the development of this infrastructure.

Federal Health Reform Support for ACO Development

As the emerging Vermont story suggests, the success of provider payment reforms such as ACOs will tend to reinforce improvements in care coordination, care management, and quality improvement. Similarly, the implementation of new provider payment models that provide more support for improving quality and efficiency can reinforce the incentives for health IT adoption that improve health system performance. Accordingly, the potential proliferation of ACOs in Vermont and elsewhere must be coordinated with the broader payment and delivery system reforms included in the recently enacted health reform bill. The new health reform legislation authorizes Medicare to participate in ACOs. It allows more robust, multipayer ACOs to be developed in the coming years that should further align incentives and promote accountability for cost and quality.

The new law and other recent legislation also include other steps that can interact with the proliferation of ACOs. These include provisions in the American Recovery and Reinvestment Act of 2009 that authorize new subsidies for the “meaningful use” of

health IT, including investments in regional "extension centers" to assist physician practices with practice redesign and EHR adoption; a range of additional payment reforms such as Medicare and Medicaid medical home projects; and public health initiatives that emphasize prevention and wellness programs and health teams at the community level. Ideally, all of these and other components of national health reform should fit together, creating an opportunity to truly align delivery systems around promoting quality and value based on innovations at the community level.

RECOMMENDATIONS

National and state sponsors should proceed with pilots and learning collaboratives, such as the Brookings/Dartmouth initiative, in diverse settings including smaller, more rural communities, to learn more about key success factors in developing ACOs. Many difficult structural and operational issues need to be resolved—for example, whether hospital participation in ACOs is essential. A critical component of these pilots is funding for the creation of local provider infrastructure and resources at the community level or "priming the pump." Implementing an effective pilot program requires significant funding for start up, technical assistance, and evaluation. The Vermont Blueprint Enhanced Medical Home pilots required sustained support to the pilot communities through state-funded grants for several years. While Vermont was able to fund its Blueprint pilots internally, in the current fiscal environment, the state did not have funds to support a Vermont-administered ACO pilot.

The choice of initial ACO pilot sites must be selective and take into account the functional requirements of an ACO. The full potential of the ACO can be realized only with the following prerequisites:

- strong, committed leadership from physicians and other key stakeholders;
- multipayer participation of major commercial insurers and Medicare to achieve the necessary critical mass to support change;
- a strong patient-centered primary care model such as the medical home; and
- robust IT support and reporting for clinical care coordination, process improvement, and financial management.

Clusters of ACO pilots within selected states would encourage the development of the statewide infrastructure needed by ACOs. In addition to Vermont, a number of other states such as Massachusetts and Minnesota are exploring how they can accelerate learning about ACOs. Some examples of how states can support ACOs include:

- Medicaid/Medicare advanced primary care model multipayer demonstrations being designed by CMS;
- mandating Medicaid participation in ACO pilots through a state waiver;
- state participation in designing a consolidated financial incentive pool for multiple commercial payers and a general antitrust shield;
- state implementation of an IT framework using federal funds for health information exchange and EHR tools;
- state sponsorship of patient self-management programs such as the Stanford Chronic Disease Management Program; and
- state department of health integration of prevention, population health, and public health tools at the ACO/community health system level.

Federal policy support will be critical to enabling a fair test of the ACO model. Some examples include:

- Medicare participation in ACO pilots by 2012 and encouraging concurrent participation in medical home pilots;
- CMS support of accelerated and improved sharing of Medicare data required to support the needs of ACO pilots;
- rapid implementation of the proposed Medicaid/Medicare advanced primary care model multipayer demonstrations, including funding of Community Health Teams; and
- funding for state and community public health infrastructure to support ACOs, including community-based prevention and wellness initiatives and population health research centers.

Our goal to create an ACO pilot in Vermont as part of a community health system is not yet realized, but we believe that we are on the right path. Many challenges still exist, but federal health reform has just provided the most significant missing piece, and we have found no other irresolvable "show stoppers." Importantly, credible starting points for the building blocks the ACO pilot requires have been created. We believe that Vermont provides an excellent statewide "laboratory" for assembling these building blocks into a "bench model" in the next year or so, which will allow us to test a variety of design issues that still need to be explored more broadly. Assembling a functioning ACO pilot to test its role in a community health system should be just a matter of time.

NOTES

[1] See, for example, A. Gawande, "The Cost Conundrum," *The New Yorker,* June 1, 2009.

[2] Medicare Payment Advisory Commission, *Report to Congress: Improving Incentives in the Medicare Program* (Washington, D.C.: MedPAC, June 2009).

[3] Patient Protection and Affordable Care Act of 2010, Pub. L. No. 111-148, section 3022.

[4] For a discussion of the ACO model, see E. S. Fisher, M. B. McClellen, J. Bertko et al., "Fostering Accountable Health Care," *Health Affairs,* March/April 2009 28(2):219–31.

[5] D. McCarthy and K. Mueller, *Organizing for Higher Performance: Case Studies of Organized Delivery Systems—Series Overview, Findings, and Methods* (New York: The Commonwealth Fund, July 2009).

[6] Act 191: An Act Relating to Health Care Affordability for Vermonters, accessed August 2, 2009, at http://www.leg.state.vt.us/docs/legdoc.cfm?URL=/docs/2006/acts/ACT191.htm.

[7] Ibid.

[8] E. H. Wagner, B. T. Austin, C. Davis et al., "Improving Chronic Illness Care: Translating Evidence into Action," *Health Affairs,* Nov./Dec. 2001 20(6):64–77.

[9] Ibid.

[10] *Blueprint for Health 2008 Annual Report,* accessed Oct. 15, 2009, at http://healthvermont.gov/admin/legislature/documents/BlueprintAnnualReport0109.pdf.

[11] Act 203, An Act Relating to Health Care Reform, Section 2, accessed Dec. 29, 2009, at http://www.leg.state.vt.us/docs/legdoc.cfm?URL=/docs/2008/acts/ACT203.htm.

[12] Health Care Reform Commission, *Feasibility Study for ACO Pilot of Community Based Payment Reform: Summary of Objectives, Key Issues and Project Structure,* Aug. 2008, accessed Dec. 29, 2009, at http://www.leg.state.vt.us/CommissiononHealthCareReform/ACO%20 feasibility%20study%20report%2008-15-08.pdf.

[13] Act 49, An Act Relating to Containing Health Care Costs, Section 6, accessed Dec. 29, 2009, at http://www.leg.state.vt.us/DOCS/2010/ACTS/ACT049.PDF.

[14] E. S. Fisher, "Building a Neighborhood for the Medical Home," *New England Journal of Medicine,* Sept. 18, 2008 359(12):1202–05.

[15] E. S. Fisher, D. O. Staiger, J. P. Bynam et al., "Creating Accountable Care Organizations: The Extended Hospital Medical Staff," *Health Affairs,* Jan./Feb. 2006 26(1):244–57.

[16] Ibid.

[17] Ibid.

[18] D. R. Rittenhouse, S. M. Shortell, and E. S. Fisher, "Primary Care and Accountable Care—Two Essential Elements of Delivery System Reform," *New England Journal of Medicine,* Dec. 10, 2009 361(24):2301–03.

[19].Ibid.

[20] Vermont Department of Banking, Insurance, Securities and Health Care Administration, *VHCURES Status Report, July 2009,* accessed Oct. 25, 2009, at http://www.bishca.state.vt.us/ HcaDiv/VHCURES_unif_reporting/VHCURES_Status_Report_07_09.pdf.