

Robert Wood Johnson Foundation Payment Reform Evaluation Project
Novel Adjustable Provider Payment Modeling in a Community-Based Accountable Care Network
Pittsburgh Regional Health Initiative

Autumn 2012 Site Report

Context

The Pittsburgh Regional Health Initiative (PRHI) was founded in 1997 by a consortium of 42 hospitals, four health plans, and corporate and civic leadership. It is a not-for-profit organization focused on value in health care and a supporting organization of the Jewish Healthcare Foundation. PRHI is the lead sponsor and convener of the Pittsburgh Accountable Care Network (ACN) Project. As one of the first regional health care improvement collaboratives in the country, PRHI has adopted industrial engineering and Lean management principles to enhance quality and safety in patient care. PRHI offers a wide array of related programs, e.g., Perfecting Patient Care University, Partners in Integrated Care, CMS Electronic Health Records Demonstration Project. It is also engaged in funding and grant-making.

PRHI's overarching vision is to create an integrated spectrum of health care throughout the Southwestern Pennsylvania region. In order to realize that vision, PRHI has crafted a portfolio of programs in care management, medication reconciliation, patient engagement, behavioral health screening and treatment, health information technology, quality improvement training under its rubric of Perfecting Patient CareSM, and redesign of payment incentives to provide rewards for collaboration. The vision spans the full array of care settings: primary care, specialty care, emergency, hospital, rehabilitation, skilled nursing home and community-based care, and hospice and palliative care.

Health care organizations in the Southwestern Pennsylvania region can be stratified into three tiers¹:

- (1) One large integrated delivery system, comprised of 19 hospitals and its own health plan, includes seven hospitals that collectively account for 45 percent of the beds and more than 50 percent of the net patient revenues in Pennsylvania Health Care Cost Containment Region 1 (the sample area used by PRHI in its comparative analyses). Those seven hospitals have earned a 4.2 percent average total margin over the 2007-2009 period, a comparatively high level of profitability, both in national and regional terms. This system is dominant in the region.
- (2) Another grouping of three small integrated delivery systems, including 10 hospitals, has approximately 30 percent of the region's beds and net patient revenues. The average total margin for those systems is 1.0 percent. The narrow margins of these small systems seemingly

¹ Hospital data are derived from the Pennsylvania Health Care Cost Containment Council (2009), cited in Kanel KT and Elster S. Novel Adjustable Provider Payment Modeling in a Community-Based Accountable Care Network. November 7, 2011. Presentation to UW Site Visit Team: November 7, 2011; Slide 8.

threaten their survival, but they do possess some of the requisite attributes to participate in an accountable care network (ACN).

- (3) Ten independent hospitals account for the remaining 25 percent of beds and less than 19 percent of the region's net patient revenues, with an average total margin of 2.1 percent.

Hospitals in the area have continued to downsize over the past decade: total beds in the seven-county region declined by roughly 22 percent over the decade, as health care organizations shrink excess capacity. Seventy percent of medical practices in the region are small, with five or fewer physicians, and 80 percent of the region's physicians admit to only one hospital.

An analysis commissioned by the Pittsburgh Business Group on Health (PBGH), published in 2012, compared number of hospitals, hospitalizations, and other hospital-related utilization measures in the Pittsburgh Metropolitan Statistical Area (MSA) with that of three similar areas: Cleveland, St. Louis, and Cincinnati MSAs. The study found that Pittsburgh had the greatest number of hospital bed days per person, emergency room visits per person, and the highest severity-adjusted average length of stay – both in general and for Medicare enrollees². On the other side of the coin, substantial progress has been made over the past decade in reducing potentially preventable hospitalizations in Pennsylvania³.

One possible explanation for the higher rates is the important role of hospitals and health systems as employers in the local market, which clearly complicates cost containment efforts. The authors of the PBGH-commissioned report state that "...Pittsburgh has viewed health care as a driving economic force and an engine to boost the local economy." They also remarked on several other features of the Pittsburgh market area that might be contributing to relatively high costs: (1) absence of public reporting on the actual allowed payments for common procedures for non-Medicare enrollees; (2) minimal movement toward reforming provider payment in Pennsylvania; and (3) the lack of tiered provider networks among the health benefit plans of Pittsburgh area employers, which otherwise could drive employees toward low cost, high value providers. More recently, however, hospitals have been actively pursuing value-based purchasing (VBP) arrangements as a preeminent focus.

Highmark Blue Cross Blue Shield, a dominant health insurer in the region, is the key health plan partner with PRHI in the development of its ACN. On November 1, 2011, Highmark and the Western

² <http://www.hci3.org/sites/default/files/files/HCI-2012-IssueBrief-4City.pdf> Accessed February 18, 2013
De Brantes F, Whipple MC, Bailey E, Costley J. Hospital Bed Supply and Hospitalizations: A Tale of Four Cities. Health Care Incentives Improvement Institute (HCI)³. Issue Brief: The hospital inpatient data were current as of year end 2009.

³ Pennsylvania Health Care Cost Containment Council (PHC4). News Release: New PHC4 report shows declining rate of potentially preventable hospitalizations in Pennsylvania. June 7, 2012.
<http://www.phc4.org/reports/preventable/10/nr060712.htm> Accessed February 18, 2013

Pennsylvania Allegheny Health System (WPAHS)⁴ announced they had reached an affiliation agreement, which they perceive will considerably strengthen the health system and position it as the centerpiece of a new and innovative integrated health care delivery system for the region.⁵ The agreement triggered an impasse in contract negotiations between Highmark and the major health system in the region, University of Pittsburgh Medical Center (UPMC), which also has its own health plan. UPMC interpreted the Highmark-WPAHS agreement as placing UPMC and Highmark in direct competition, and declared that Highmark enrollees would lose access to in-network rates for care with UPMC physicians. A mediated agreement maintains in-network access for Highmark enrollees to UPMC physicians and hospital facilities through June 30, 2013.⁶

As of late February 2013, approval of the Highmark-WPAHS affiliation by the Pennsylvania Department of Insurance was delayed, as state regulators requested revised financial projections for the affiliation – based on Highmark’s request for a contract extension beyond December 31, 2014, with UPMC, which has stated that such an extension is not possible. In a letter to Highmark, the Deputy Insurance Commissioner stated that the request for contract extension, coupled with Highmark’s refusal to disclose the projected financial impact of the contract extension on the Highmark-WPAHS deal, called into question Highmark’s long term commitment to WPAHS. The Department has asked Highmark to file additional information by March 8, 2013.⁷

Meanwhile, the recent acquisition of Jefferson Regional Medical Center by Highmark has signaled the latter’s continuing intent to develop an integrated delivery system in the southwest Pennsylvania region⁸. The longer term issue is whether access to care at specific facilities will be limited, based on identity of the enrollee’s health insurance carrier, and how that will affect the evolution of provider payment models and the accountable care network in the region. The uncertainty regarding the

⁴ West Penn Allegheny Health System (WPAHS) is an academic medical center located in the Pittsburgh metropolitan area. It is the second-largest provider organization in the region and was formed by the merger of the Western Pennsylvania Hospital (West Penn) and Allegheny General Hospital (AGH). WPAHS is made up of these two tertiary hospitals in Pittsburgh, as well as three community hospitals.

http://en.wikipedia.org/wiki/West_Penn_Allegheny_Health_System Accessed March 14, 2013.

⁵ Press release: Highmark, West Penn Allegheny Health System announce facility upgrades planned for Forbes Regional Hospital. <https://www.highmark.com/hmk2/about/newsroom/2012/pr010412.shtml>. Accessed January 8, 2012.

⁶ Silver JD, Olson L, and Hamill SD. Highmark, UPMC reach temporary contract agreement. December 22, 2011. Pittsburgh Post-Gazette <http://www.post-gazette.com/pg/11356/1198673-100-0.stm#ixzz1krDjTsWc>. Accessed January 8, 2012.

⁷ Mamula KB. Highmark-WPAHS deal hits another snag. Pittsburgh Business Times February 22, 2013. <http://www.bizjournals.com/pittsburgh/news/2013/02/22/highmark-wpahs-deal-hits-another-snag.html> Accessed February 23, 2013.

⁸ Mamula KB., Court blesses Highmark-JRMC deal. Pittsburgh Business Times. February 14, 2013. http://www.bizjournals.com/pittsburgh/news/2013/02/14/court-blesses-highmark-jrmc-deal.html?ana=RSS&s=article_search&utm_source=feedburner&utm_medium=feed&utm_campaign=Feed%3A+ve rtical_18+%28Legal+Services+Industry+News%29 Accessed February 22, 2013.

Highmark-WPAHS affiliation and the relationship between UPMC, Highmark, and UPMC Health Plan introduces a kind of paralysis among potential partners interested in health system improvements for mutual benefit, presenting potential impediments to payment reform efforts in the region. In addition, the health plan market has become increasingly competitive: Highmark and UPMC Health Plan are now joined by Humana, United Health, and other commercial insurers in the region. Insurers also recognize some movement toward defined contributions to employees for health care by employers, a phenomenon sometimes accompanied by “direct pay” by patients to providers, thereby bypassing the health insurer. The magnitude and implications of this development are not fully apparent.

In addition, one major insurance carrier in the region is actively implementing the Prometheus model of evidence-informed case rates (bundled payment) for episodes of care and is close to roll-out for orthopedics and cardiology. Approximately 18 practices engaged in PCMH have signed contracts with that carrier for shared savings. The typical model involves upfront dollars to the participating practice. The shared savings are introduced once specific performance targets are met; those shared savings can reach as much as 40 percent of fee for service (FFS) payments. The targeted performance measures are reported monthly to the practice.

PRHI is moving forward with the ACN Project, and is maintaining its posture as a neutral party – accessible to, and facilitating system improvement and payment reform among all regional stakeholders. The market turbulence of late 2011 through early 2013 is relevant to the Pittsburgh ACN Project, in that it temporarily slowed the progress of network development and ultimately led one of PRHI’s hospital partners to defer participation in joint ACN development. PRHI leadership is moving ahead with Monongahela (Mon) Valley Hospital in ACN development, and in June 2012 received a \$10.4 million Health Care Innovation Award from the Center for Medicare and Medicaid Innovation (CMMI) for its Virtual Accountable Care Network Project. That grant will allow PRHI to extend its virtual ACN to six hospitals in Western Pennsylvania in addition to Mon Valley.⁹ Simultaneously, other organizations are engaging in efforts that overlap with PRHI’s initiatives such as an insurer’s patient-centered medical home (PCMH) program; another health plan’s project to re-engineer hospital discharge processes; and durable medical supplier activities relative to COPD.

A promising indicator for ACN development is the 44 percent reduction in 30-day readmission rates for chronic obstructive pulmonary disease (COPD) over one year in one hospital participating in Phase 1 of the ACN Project¹⁰. At the beginning of the project, the readmission rates for COPD at the hospital significantly exceeded the national benchmark.¹¹ These moves are part of a cascade of deployment of

⁹ <http://www.prhi.org/initiatives/acn> Accessed February 14, 2013.

¹⁰ There were two participating hospitals in this Phase 1 project, but the investigator coordinating that portion of the project was unable to complete a statistical analysis of the demonstration.

¹¹ Kanel KT and Elster S. Novel Adjustable Provider Payment Modeling in a Community-Based Accountable Care Network. November 7, 2011. Presentation to UW Site Visit Team: November 7, 2011; Slide 18.

disease management models by one Perfecting Patient Care Team. Having developed successful tools such as outpatient COPD telephone triage and a readmission reduction guide, as well as identified dedicated space for a new model of primary care at one of their lead ACN Project hospital partners, PRHI is poised for the next phase of network development.

Objectives

Broadly stated, the ACN Project goal is to create a suite of services that add value to health care and to demonstrate how alternative payment arrangements could support improved value. In a region with many smaller practices and several independent hospitals, the goal is to fashion an accountable care network (ACN) that can offer those services in a way that eliminates artificial barriers to different levels of care based on type of insurance. Underlying this objective is the need to determine what services should be paid for and how much.

A more specific objective of the project is to lower costs by reducing readmissions and better managing care for chronic conditions – specifically, chronic obstructive pulmonary disease (COPD), congestive heart failure (CHF), and coronary artery disease (CAD). The vision is that population health will be stabilized in the region by tackling the underlying reasons for readmissions. A second specific objective is to ensure the financial sustainability of primary care in the region – which is crucial to the goals of stabilized population health, access to appropriate care, and reduction in excess hospital utilization – by creating hospital-based, virtual patient-centered medical homes. Put differently, in the ACN Project’s first year report, that second objective is translated as, “... to show how a successful care delivery redesign model can be financially sustained by independent hospitals and independent physicians organized into a virtual accountable care network.”¹²

To accomplish these objectives, as of late 2012-early 2013, both PRHI and its major health insurance partner have agreed to refine data collection techniques and measurement to support coordinated care pathways – not only the existing COPD metrics but also for CHF and CAD. In parallel, one of PRHI’s hospital partners is positioning itself to assume financial risk and anticipates that improved care coordination will enable quality improvements and further reductions in readmissions. Having relevant clinical data and implementing the patient-centered medical home are perceived as foundations for payment models based on quality performance (P4P) and gain-share for reductions in readmissions.

Approach

The PRHI strategy for attaining the ACN Project objectives has been to create a paradigm through which savings from reduced readmissions are combined with fee for service (FFS) for specific value-added primary care services and pay-for-performance (P4P) payments to hospitals and physicians. The ACN is

¹² Pittsburgh Regional Health Initiative. Annual Narrative Report (Year 1: May 15, 2011 – June 14, 2012) to the Robert Wood Johnson Foundation. July 30, 2012 (p.1).

distinct from the accountable care organization (ACO), in that the latter implies a fiduciary relationship between participating providers (the *O* in the ACO) for a defined patient population. In contrast, in an ACN a group of non-legally affiliated independent providers (the *N* in ACN) is responsible for a defined population. In that sense, the ACN preserves independence, while encouraging partnerships. The Pittsburgh ACN Project approach originally was influenced by the perception that few practices were interested in a shared savings program with a fiduciary requirement.

The project's first phase, which began in 2007, emphasized care coordination and demonstrated 44 percent reduction in 30-day readmission rates for COPD patients at one hospital within a year. The process begins at admission and is implemented by disease-specific nurse care managers. Using validated patient-centered protocols, including pharmacist consult, the discharge process is enhanced. Secondary care support services are coordinated by the hospital-based Primary Care Resource Center (PCRC), supervised by ACN primary care physicians (PCPs). These services are complemented by an in-home visit of the disease-specific care manager within 72 hours of discharge and a guaranteed follow-up appointment with the patient's PCP within seven days of discharge. The PCRC specifically addresses the disconnect that often occurs between the patient's PCP upon hospital admission and following discharge. The hospital-based PCRC allows small primary care practices to become "virtual" patient-centered medical homes by housing team of chronic disease nurse care managers/coordinators. PCRCs will offer a range of centralized care management services (including care transition support), disease management, and value-added primary care services (e.g., smoking cessation, spirometry, diabetes management).

After roughly 18 months of negotiation and identification of a hospital for the PCRC, the concept became a reality when the PCRC opened on July 1, 2012. Mon Valley Hospital, a lead partner on the ACN Project, was the first regional hospital to step up and provide a suite of five rooms to initiate its PCRC. Highmark agreed to provide funding for the nurse care managers for both Highmark enrollees and patients insured by other plans, so that physicians were not tacitly encouraged to differentiate their management of care based on the patient's choice of health plan. Highmark has provided funding for three hospital-based nurse care manager for the first three years. The clinical team comprises the care managers and a pharmacist, as well as 24 participating primary care physicians. PRHI practice coaches and multidisciplinary teams are using the Perfecting Patient CareSM Lean methodology to refine and implement the COPD care pathway. These materials will form part of a comprehensive tool kit for ACN Project Phases I and II¹³. The measurement strategy taps data on inpatient processes in the inpatient electronic health record (EHR), Meditech, and the ambulatory network care management registry, eClinicalWorks. Performance reports are scheduled on utilization, quality tracking and readmissions, patient and provider satisfaction with PCRC services, and financial performance.

¹³ Pittsburgh Regional, Health Initiative. Annual Narrative Report (Year 1: May 15, 2011 – June 14, 2012) to the Robert Wood Johnson Foundation. July 30, 2012.

A consulting health economist is responsible for determining baseline financial modeling and is concentrating efforts on estimating the effect of the PCRC services on health care spending, and is advising on a method for distributing any shared savings to providers. The consultant is taking into account physician preferences for and use of PCRC services, delivery of early detection services, projected payment rates for PCRC services, existing P4P programs, and admission and readmission rates. Data use agreements (DUAs) are being developed between the hospital and another health plan and CMS, building on the already executed DUA with Highmark. Based on the projected outcome improvements of a 10 percent reduction in admissions and a 40 percent reduction in readmissions for the “bundled cohort” of patients living with COPD, CHF, and CAD, the project leaders are estimating a 17 percent reduction in all-cause admissions. After six months, Mon Valley intervention has been quite effective: COPD all-cause 30-day readmission rate has fallen 47 percent (fourth quarter 2011 versus fourth quarter 2012), and total COPD admission volume has fallen 34 percent (fourth quarter 2011 versus fourth quarter 2012). With this evidence of efficacy, PRHI is preparing to analyze financial data with Highmark.

Highmark is working with PRHI to identify “buckets” of high-cost utilization, e.g., hospitalization and emergency department visits, prior to completing claims adjudication. This would support a notification system for PCPs that would better enable them to coordinate transitions between care settings. Highmark also took on a project with another partner to develop a methodology for distinguishing between avoidable and unavoidable admissions. They are collaborating in the latter project with a team from Dartmouth and have categorized roughly 85 percent of all DRGs, to assist hospitals in identifying which are avoidable. Mon Valley Hospital currently is tracking its own data on care patterns; as this typically involves a three-month delay waiting for incurred but not reported (IBNR) claims to come in, Mon Valley is developing an internal reporting system for more timely data.

As mentioned earlier, recent receipt of a major CMMI grant to build out a seven-hospital virtual ACN in Western Pennsylvania leverages PRHI’s learning from the implementation of the PCRC and associated accountable care network at Mon Valley Hospital. The project will include roughly 25,000 Medicare beneficiaries, and the leadership estimates future savings of approximately \$74 million over three years, based on better care integration, support for improved transitions between care settings, and medication management.

In contrast to the original resistance to shared savings models, interest in innovative payment arrangements has grown as the virtual ACN Project has rolled out. PRHI’s current strategy for payment reform is to recruit hospital partners, put PCRCs in place, improve care management, lower total health care costs, and share the savings with hospitals. For example, one health insurance carrier has created a shared savings arrangement with a hospital, which would receive a substantial share of any total cost

savings (capped at a certain dollar level), and the insurer would receive the remaining savings. The gain to physicians under this arrangement would be through pay-for-performance bonuses for quality improvement, which, in turn, could lead to reduced preventable admissions and readmissions.

The project stakeholders recognize that, in the short run, hospitals are likely to lose revenue, and potentially profitability, by reducing readmissions. However, project partners are “committed to doing the right thing.” To sustain this goodwill among providers, properly aligned payment incentives are crucial. At this point, PRHI’s efforts in clinical redesign are much further along than the necessary payment innovation. The work on reducing readmissions (Project RED) and initiatives in disease-specific care management, quality improvement, patient-centered medical home pilots, and payer-sponsored medical homes have laid a strong foundation for delivery system reform. With respect to payment redesign, however, neither the Affordable Care Act’s (ACA) Section 3022 shared saving program nor the Section 3023 bundled payment program has caught fire in the region. Capitation is virtually non-existent in the area, and the large number of small, independent practices will render implementation of shared savings incentive models quite difficult.

Consequently, PRHI and its partners are considering an array of mechanisms for allocating dollars and returning presumed savings to provider stakeholders, including fee for service, pay for performance, shared savings, case management fees, and other means. PRHI’s current approach is to assemble stakeholders (presumably at the payment summits) and, as a group, consider the best way of distributing any savings. There has been no consensus on the overall reimbursement model. Highmark initially is covering the personnel costs of the nurse care managers, but a long run funding approach will be required to support the fixed costs of those personnel in addition to the per member variable costs of providing disease-specific care management. PRHI is not in a position to assure that the payer will return actual dollars to the providers during the term of their current Robert Wood Johnson Foundation project grant, or to specify the form that such disbursement might take. The stakeholders hope to craft a disbursement model acceptable to multiple, if not all, payers, and that such a model will promote long term sustainability of the ACN. The health economist will play a major role in designing and performing return on investment (ROI) analyses that will assist in choosing the best disbursement model from the perspective of the multiple stakeholders.

If the combination of care coordination, case management, and quality improvement does save money (i.e., it either reduces the average level or the rate of change of total health care payments per-member-per-month [PMPM]), the next step would be to develop the formulae by which to redistribute those dollars back to the providers. One idea is to translate any savings into a PMPM payment and share those resources with hospitals and other providers; but this arrangement could be complicated, and the underlying economics really would be “shared savings” – simply with a different label. Any redesigned payment structure will face the dilemma of whether to hold harmless the “losers” from reduced

readmissions, hospitalizations, and any accompanying reductions in selected specialty services (most likely those related to hospital inpatient care). The P4P incentive payments may hold the key to sustaining this form of payment re-design. The example cited earlier of one insurer and one hospital sharing savings, and incorporating P4P bonuses, merits careful tracking of actual utilization and cost outcomes, as well as its sustainability. Shrinking and effectively redeploying excess hospital inpatient capacity might be the keys to success for hospitals participating in these shared savings ventures.

To simplify, there are at least six main stakeholders in the flow of health care funds: patients (health plan members); health insurers (health plans); hospitals; PCPs and their professional care partners (e.g., care managers, practicing nurses, and other therapeutic personnel); physician specialists; and employers. To the extent that PCPs, nurse care managers, and their support resources are the proximal source of care innovation that leads to total cost savings, those parties will need to be rewarded economically. Logically, if reductions in avoidable hospitalizations, readmissions, and other high-cost services are indeed forthcoming, at least some of those short-term savings will be distributed back to the PCPs and care managers as incentive bonuses for their role in achieving those payment reductions and quality improvements.

Any remaining dollars from total “system” savings in health care payments would then be divided among the following: (1) patients through reduced cost-sharing and health insurance premium reductions, (2) employers through improved productivity and reduced absenteeism of their employees, (3) insurers through reduced claims costs, and (4) partial hold harmless payments to hospitals and specialists, whose revenues and profitability are otherwise diminished. We refer to these hold harmless payments as “partial” because if all initial revenue or profitability losses to hospitals and specialists were paid back to those parties, there would be no remaining savings to be captured by the other four sets of stakeholders.

Seemingly, the way out of this conundrum for hospitals and specialists is to reduce and restructure their infrastructure and capacity to lower their fixed costs of production, so as to maintain their profitability. Rationalizing capacity will take time, so interim hold harmless payments would ease the transition to reduced demand over time. Similarly, if health plans, employers, and plan members (patients) were willing to accept significant reduction in the trend of increasing total payments – i.e., bending the cost curve downward instead of absolute reductions in total payment – then the financial “hit” to hospitals and specialists would be softened.

Another important aspect of PRHI’s approach is patient empowerment. Benefit redesign is one potential instrument for more effective engagement of consumers and patients. To that end, Highmark announced a new health plan product, Community Blue, in September 2012, which is designed to promote enrollees’ engagement in a patient-centered medical home and to establish continuity of care

with their PCP. This select provider network comprises more than 50 hospitals and 7,600 PCPs and specialists throughout the 29-county Western Pennsylvania region. The carrier expects savings of as much as 25 percent in total costs relative to existing network products.¹⁴ Leading insurers in the region also are beginning to build a health information exchange (HIE). This is a community-based, multi-payer endeavor and represents (in the words of one interviewee) “a huge challenge.” The intent is to include a patient web portal in the HIE, as well as cross-provider linkages.

Progress and Results. PRHI leadership foresees that the large integrated systems in the region are well structured to participate in an array of value-based payment reform options in the planned ACN, but none has aligned yet. The CMMI grant offers a financial catalyst to enlist smaller independent hospitals in a virtual ACN that no one of them alone could replicate. As of February 2013 no payment model changes had been instituted, either in the context of the Mon Valley PCRC or the virtual seven-hospital ACN being created with substantial support from CMMI.

Current progress on the ACN Project can be measured principally in terms of improved infrastructure, e.g., hiring a lead PRHI data analyst, who will ultimately share information across a “firewall” with the assigned data analyst from Highmark. The Mon Valley PCRC has attracted considerable attention from home health agencies seeking referrals and also exploring participation in a future ACO. Early analysis of Highmark data at Mon Valley shows some signs of reduced admissions and readmissions – possibly an indicator of improved ambulatory care, but no firm, quantitative evidence of the extent or sources of those reductions. However, the preliminary data have revealed that gaps in care definitely are being closed.

Logic Model

PRHI has developed a logic model, tracing the causal chain through which resources are translated into activities, which in turn produce outputs. Those outputs lead to initial outcomes, then to intermediate outcomes, and finally to the Initiative’s desired long-term outcomes over the three-year timeline (2011-2014). We describe the posited links in that causal chain, which represents the “theory of action” behind the Pittsburgh ACN Project: how it proposes to achieve its ultimate objectives.

Resources. The major project resources are the network of stakeholders in the Pittsburgh ACN, PRHI itself, the Highmark team, a health economist, and the funding from Robert Wood Johnson Foundation for a 0.25 FTE data analyst at Highmark.

Activities. The major activities are two-fold: to implement the ACN Project and to establish tandem data teams at Highmark and PRHI. The tandem data teams from Highmark and PRHI will share customized

¹⁴ News Release: Highmark Blue Cross Blue Shield. September 10, 2012.
<https://www.highmark.com/hmk2/newsroom/pressreleases/2012/pr091012.shtml>

and de-classified data across a firewall in real-time with a project economic modeling team. This latter entity will act as a kind of business associate, thereby developing viable methods for aligning payment with new models of care without compromising privacy, confidentiality, or competitive sensitivity of either financial or otherwise protected health information.

Outputs. High-level outputs (in effect, inputs) of the project are Highmark administrative data, hospital administrative data, PCRC administrative data, Pennsylvania hospital council (PHC4) data, and satisfaction data.

Initial Outcomes. The ACN Project is seeking to achieve a decline in preventable hospitalizations. Operationally, the outcome targets are a 40 percent reduction in 30-day readmissions for target conditions, a 10 percent reduction in total hospital admissions, a decrease in ER use, and improved patient, family, and provider satisfaction.

Intermediate outcomes. These are conceived as results of the efforts of the economic modeling team: (1) determination of the return on investment of the ACN Project intervention; (2) calculation of the PMPM to return savings to providers; (3) conduct of a local payment summit (planned for November 2012 to assemble all stakeholders in the ACN Project and to explore viability of a multi-payer model); and (4) sponsorship of a national payment summit in Pittsburgh of leaders in health economics.

Long-term outcomes. The final outcome of the project is conceptualized as a collaborative payer model, in which multiple payers adopt an evidence-based PMPM for target conditions.

Facilitators and Barriers

The facilitators and barriers are presented in no particular order of importance.

Facilitators

PRHI has been a key facilitator of ACN development and payment reform in Southwestern Pennsylvania. For example, it has stayed very close to the PCRC project in Mon Valley and has produced specialized resources for readmission reduction projects and other aspects of care delivery redesign. PRHI's role in securing expert technical assistance and consulting resources has been instrumental in advancing PCMH and ACN initiatives throughout the region. For example, PRHI facilitated relationships between the Mon Valley PCRC and coaches from Accenture and Geisinger, which have been very helpful by assisting with accurate patient identification and improving efficiency of data entry. PRHI's leadership on the CMMI grant application was instrumental to competing successfully for the \$10.4 million award that is financially supporting the implementation of a seven-hospital virtual ACN. Its capacity to serve as a neutral convener, technical resource, and honest broker for multiple stakeholders is a major asset in payment reform for the region.

Mon Valley Hospital already has an integrated delivery network through its physician-hospital organization (PHO), which allows the physicians to remain independent while gaining negotiating leverage by acting as a large group. The timing of the ACN Project was a “perfect storm” for the hospital. There is a predominantly elderly population in a medically underserved area, and the hospital’s experienced administration and infrastructure are well positioned to support innovation. Mon Valley knows its provider and patient communities well. The PCRC at Mon Valley facilitates engagement of hospitals which are looking for new revenue streams in light of excess beds and negative margins, while also seeking new means of meeting community needs. Novelty is a positive factor for the PCRC; there have been a number of stories in the local press, especially concerning the involvement of a pharmacist on the care team. Impending changes in Medicare payment – specifically, bundled payment and the October 1, 2012, announcement of penalties for excess readmissions¹⁵ – also have catalyzed interest among hospitals and physicians.

Providers see ACNs and payment redesign as a means of preparing for a regime in which payment for readmissions is either eliminated or substantially reduced. As a major payer, Highmark sees the ACN Project as compatible with the insurer’s interest in developing an ACN for its population – focusing on patterns of care for avoidable readmissions. In summer 2012 Highmark adopted the Medicare readmission targets for seven and 30 days post-discharge for hospital and observation status. This standard is required for all Highmark hospital contracts, and readmission rates will influence the contracted payment rate. The project lends further motivation to Highmark’s development of a data warehouse that could expedite notification to PCPs of hospital admissions and ER visits of their patient panel. The Affordable Care Act appears to be prompting providers and payers to adopt PCMH and ACN models.

PRHI plays a major role in communication with physicians, which is fundamental to success of the ACN Project. PRHI offers multiple opportunities for cooperation and communication, while also providing a trusted, “go-to” sponsor for the overall project.

¹⁵ Nationally, Medicare is rewarding 1,557 hospitals with more money and reducing payments to 1,427 others, according to a Kaiser Health News analysis of records released by the Centers for Medicare & Medicaid Services. The maximum amount any hospital could gain or lose was 1 percent of its regular Medicare payments. For nearly two-thirds of the hospitals, the changes are less than a quarter of a percent. In October (2012), Medicare also began reducing payments to 2,217 hospitals because too many of their [patients ended up back](#) in their care within a month. Medicare already gives bonuses to the private Medicare Advantage insurance plans that score well on quality metrics. In 2015, the health law calls for the government to begin a quality [payment program for physician groups](#) of 100 professionals or more, and that is to be expanded to all doctors by 2017. <http://www.kaiserhealthnews.org/stories/2012/december/21/medicare-hospitals-value-based-purchasing.aspx>
Accessed February 20, 2013

Mon Valley's EHR is another facilitating mechanism for peer-to-peer communication and between hospitalists and community PCPs. Actionable data tools, such as the Prometheus software that allows detailed analysis of the clinical content and utilization patterns within distinct episodes of care, are a major facilitator of payment reform. The capability to produce real-time data for management at the practice level and for finance managers to test the consequences of alternative reimbursement models also supports payment reform.

The grant resources from the Robert Wood Johnson Foundation (RWJF) have also been helpful. Those funds have supported PRHI's conceptual development of the ACN and have offset a portion of the costs of the economic modeling team's work. Visits from RWJF project staff to Mon Valley Hospital (MVH) have confirmed the national importance of the project – affirming MVH staff's commitment to the PCRC and virtual ACN. Consulting expertise and availability of expert consultation has helped to attract potential collaborators.

Barriers

One of the project's significant challenges is that the health insurers do not have a history of collaboration. PRHI offers a structure that can serve as a neutral convener to facilitate such collaboration. As evidenced by the current controversy between Highmark/WPAHS and UPMC and its health plan, a working understanding among competing parties and an entity prepared to play the "honest broker"/convener role may be required to achieve multi-payer cooperation in the face of insurer competition within Southwestern Pennsylvania. With the entry of some new commercial payers, increased competition in the health insurance market of Southwestern Pennsylvania is likely to complicate prospects for multi-payer collaboration on payment reform and ACN development in the region. The two major payers do collaborate in some domains, but generally "do not reach across the aisle."

Another potential barrier is the absence of capitation in the region. Without significant payer-provider experience with full-risk (global capitation) and professional services capitation (primary care plus specialty care) models, the stakeholders have to design such payment models from the ground up. This adds complexity and possible delays in implementation of the ACN.

Funding for the PCRCs is also challenging, both for implementation and sustainability. Highmark has committed to funding care managers at Mon Valley for three years, but in the long run the care management function will become an ongoing operating cost to be covered by a combination of new revenues from payers and the share of total health care cost savings accruing to the accountable care organization and its participating provider organizations. It will be important to maintain momentum: if physicians perceive frequent stopping and starting of ACN development, they are likely to withdraw

their participation. There is no additional reimbursement to the hospital to participate; it will be problematic if the Highmark grant ends and existing reimbursement does not cover the costs of the PCRC, with uncertain sustainability.

The physicians in the Mon Valley area are independent, with most PCPs in solo or two-person practices. While many providers have expressed interest in participation, many are also exposed to several concurrent initiatives with overlapping objectives. A challenge for the hospital is how to simplify this project for the providers in the face of similar initiatives.

There are ongoing struggles with electronic health records (EHRs) in the smaller practices. In particular, those practices need an EHR capability and interoperability that will allow them to track the patient wherever he or she is receiving care.

Validity and cleanliness of claims data are always an issue, but not in any way unique to the Highmark/PRHI relationship. Furthermore, it is a challenge to overcome legal and privacy issues in data-sharing, but the parties are putting together a third party non-disclosure agreement to address these considerations.

Evaluation and Sustainability

Within the next three to six months the PHO's medical economics department intends to evaluate the impact of the Mon Valley PCRC on costs of hospital inpatient care, primary care, specialty care, and pharmacy in the episode of care bundle for knee replacement. The first analysis will be based on 2010 and 2011 data. This information will be shared with the hospital and other participating providers and organizations, who then will agree on a fair method of distributing dollars from the bundled payment to the players. The PHO at Mon Valley illustrates how such a process might work: monthly meetings with gain-sharing organizations, regular communication with payers, quarterly progress meetings with the medical staff, and an annual meeting of the PHO.

To sustain physician engagement, PRHI is grant-funding a year-long position to help physicians install the Peer-to-Peer provider web portal, which allows direct communication between practices via secure e-mail. The patient portal will follow.

Sustainability of the virtual ACN and the accompanying payment reform models under development, e.g., shared savings and bundled payment, depends on achieving total cost reduction – ultimately based on total costs per person (although shared savings per episode of care “bundle” seems the most likely next stage). Each participating entity will require an acceptable return on its investment in IT infrastructure (e.g., Web portals, EHR enhancements) and care management (e.g., nurse care managers, pharmacists), and that economic reality poses a kind of “commons problem.” Total cost reductions

require coordinated collective action; but, to stimulate such cooperation, individual players must envision how that cooperation will produce individual benefits that exceed their costs. This is not an intractable problem, but its solution will demand considerable ingenuity and good will.

Lessons Learned

The Pittsburgh ACN Project is in a formative period. PRHI and its stakeholders have laid the groundwork for improved care coordination and delivery in the region, especially through a strong lead hospital and health plan partner, and secured near term funding for the nurse care managers in the Mon Valley PCRC. They must demonstrate continued success in reducing readmissions for the chronic diseases that are major system cost-drivers, and design a payment model that incentivizes substantial participation by hospitals and specialists, as well as the PCPs, who are best-positioned to realize the near-term benefits of system cost-savings. By intent – having initially emphasized clinical redesign as a foundation of the ACN – payment incentive redesign is embryonic at this juncture. Implementation of a payment mechanism that aligns the incentives of all parties and that actually generates system savings is a top priority in order to maintain project momentum and to secure continued broad stakeholder participation.

Stakeholders have remarked on “performance improvement fatigue.” Health plans implementing P4P mechanisms also must offer provider organizations timely performance reporting and right-sized financial incentives (e.g., in the form of a PMPM payment for care coordination, assistance with health information exchange). Regional sponsoring organizations such as PRHI offer significant infrastructure support, coaching, access to technical assistance, and a safe forum for collaboration. Those facilitating mechanisms typically require grant funding and membership dues support for their long term sustenance. The growing demand among providers for common multi-payer performance measures and health plan support actually reinforces the need for “mediating structures” like PRHI that can offer a neutral venue for multi-stakeholder communication, cooperation, and community infrastructure improvement (e.g., through measurement frameworks, payment summits, health information exchange development, and enhancements to the “medical neighborhood”).

One cannot overemphasize the importance of regular communication with stakeholders and partners, as demonstrated in the PCMH and ACN efforts. Unanticipated delays set in, and one risks losing the interest of the physicians – especially in light of other projects and task overload. For example, once the PCRC was launched after two years of discussion, the attention of physicians had to be recaptured.

Multiple, incompatible IT systems across hospitals, health systems, and physician practice settings also cause great frustration for physicians. Some physicians detest having a computer between them and their patients, but most hunger for valid, clinically relevant information in real time. The challenge is to

engage physicians in precise and sustained identification of the required clinical information, while developing real tools for retrieving timely data for patient care.

Finally, reformed payment systems and redesigned care delivery models also confront another conundrum. Social and patient factors beyond the control of providers, payers, and purchasers inevitably confound the best-laid plans of reformers. Thus, stakeholders must possess patience and exhibit flexibility in their response to unanticipated developments. Incorporating risk adjustment into global payment arrangements is one example of such flexibility. Long run payer-provider incentive contracting is an example of patience. Goodwill among the multiple stakeholders in payment reform and ACN development is a third ingredient for success – the “glue” that binds the parties for long run value creation.