PRESBYTERIAN HEALTHCARE SERVICES

A case study series on disruptive innovation within integrated health systems

Vineeta Vijayaraghavan
Senior Research Fellow

Ariana Klitzner
Research Fellow

EXECUTIVE SUMMARY

Presbyterian is the largest health system in New Mexico. It serves 700,000 New Mexicans, provides 1.2 million patient visits annually, and generates annual revenues of $1.9 billion. It began as a hospital, and later added an insurance plan, and finally an employed medical group. The health system has no "narrow network" product, though approximately 10% of its clientele are users of all three Presbyterian services: the health plan, hospital, and medical group. Here, we have summarized the most important lessons in the case.

Scarcity can be "the mother of invention."

A high demand for services and a limited capacity to deliver with existing operations often breeds innovation. At Presbyterian, providers have such a backlog of work that they are more comfortable with primary care doing the work of some specialists or with physician extenders doing the work of some physicians. The willingness to try Hospital at Home came from a scarcity of hospital beds, so the hospital was not threatened by the lost revenue but welcomed the new capacity. A lack of physician supply in rural areas also led to innovations in telemedicine and increased support for home health care.

It helps to be in a local market that has already gotten over the learning curve of the value proposition of full integration.

Because Lovelace Hospital was already an established HMO and vertically integrated, customers already appreciated the cost/value tradeoff of the lower premiums and the integrated care the plan was able to offer. This customer acceptance also helped lower resistance for physicians when Presbyterian evolved in the direction of full integration. This environmental "readiness," combined with its existing strong brand as a hospital, allowed Presbyterian to achieve scale very quickly, which is critical for successfully launching an integrated system.

Just because physicians are employed, it does not mean they believe in the model.

Many physicians joined Presbyterian because their practices were struggling. This meant they were not necessarily committed to changing their behavior or accepting new incentives to leverage the potential of the integrated model. There are concerns that as physician compensation is shifted towards quality, there will be a drop in productivity; maintaining quality will require physicians to commit more fully to the model or leave the system.

Health plan within an integrated model can often be the driver of change.

The health plan bought out its other hospital partner, who viewed the insurance product as a way to fill hospital beds. The plan prefers to focus on its goals of getting closer to the customer, changing the incentives for good health care delivery, and acting on better information and analytics than a stand-alone hospital would customarily have.

Integration has yielded some clear quality advantages, though not cost advantages, at this point.

Those members who are seen within all three Presbyterian organizations tend to have some improved quality metrics, like better compliance with screenings or preventive care that could result in savings down the road. However, there has not been a measurably lower cost of care recorded, and the leaders do not feel they could market a narrow network product based on its cost of care. So far, Presbyterian has been low cost compared to other parts of the country, but is not seen as a low cost player in its local market. Leaders hope gains in cost of care will be achieved as physician commitment to the employed model and to evidence-based medicine increases. Furthermore, the successful implementation of electronic medical records next year is expected to enable increased reliability of data, better targeting of treatment goals, and allow for a shifting of compensation based on meeting those treatment goals.

Difficult for one dominant player to spark change in a region.

Because Presbyterian has already made significant investments in data collection, quality tracking, and electronic medical records, other competitors see Presbyterian's suggestion to unify around state or regional standards or guidelines as a threat. It seems critical for there to be at least two or three entities on reasonably even footing in the market that are willing to partner to create these standards. Alternatively, change will depend on external national regulation.

PRESBYTERIAN HEALTHCARE SERVICES

A case study series on disruptive innovation within integrated health systems

This case unfolds in three parts. The first section considers Presbyterian's path to integration and the critical steps to becoming a successful, integrated health care system. The second section examines the present-day system, highlighting practices and disruptive innovations[1] that are often dependent on integration. The third section presents lessons for other health care systems attempting to move toward integration and considers policy and payment reforms that would most effectively stimulate the spread of integrated systems.

I. BACKGROUND AND HISTORY

Hospital roots (1908–1952)

Presbyterian Healthcare Services (PHS) began as Southwestern Presbyterian Sanatorium ("the San"), a tuberculosis sanatorium founded in 1908 by Reverend Hugh Cooper. In 1933, "the San" took its first step towards providing comprehensive health care. "San" leadership, recognizing that patients required general health care in addition to TB treatment, built a hospital with obstetrics, X-ray and surgery departments. The hospital began to serve on a limited basis non-TB patients from all over the state, most of whom would travel to "the San" for various surgical procedures. "The San" also built a laboratory to conduct studies in search of a TB cure.

In the mid-1940s, TB-curing antibiotics hit the market. There was no longer a pressing need for TB sanatoriums and many closed down. "The San," however, with its general health care services, realized it could serve another population. Around the same time, Albuquerque was experiencing a population explosion. World War II and its aftermath brought many new employees to the Los Alamos and Sandia laboratories and the Kirtland Air Force Base. Many of these new residents brought their families to the area—all of whom needed health care.

---

[1] Disruptive innovation is a term coined by Harvard Business School professor Clayton Christensen, describing changes that improve a product or service in ways that the market does not expect, typically by lowering price or designing for a different set of consumers. It contrasts with sustaining innovation, a process of incrementally improving existing processes in ways that only serve the interests of existing customers.

INNOSIGHT INSTITUTE

In 1952, "the San" was renamed Presbyterian Hospital. Ray Woodham, a new, hospital-focused administrator, was brought on to oversee the transition and lead the new facility.

Struggles with financial stability and capacity (1952–1970)

The formative years of the hospital were filled with financial difficulty, including six months of overdue accounts payable. Accordingly, from the very beginning, hospital administrators were extremely focused on the financial health of the hospital and paid special attention to financial metrics. More than a decade after the hospital began operations, Woodham practiced what he called "shoebox management… You just spend what you have."[2] He monitored daily financial reports instead of the monthly reports used by many other facilities. Finances guided daily operating decisions.

As early as its sanatorium days, Presbyterian faced high demand for services and limited capacity. As Albuquerque's population exploded mid-century, these demands only increased. The 1960s saw both increasing demand for health care services and increasing competition in the health care market. The hospital tried to keep capacity at pace with demand. In the early 1960s, the hospital expanded by 120 beds, and in 1968, began construction on a new facility, the Anna Kaseman Hospital. In order to meet demand and remain financially viable, the hospital also developed a strong focus on efficiency, finding ways to increase patient through-put to get as many patients served as possible.

Expanding into new areas (1970–1980)

Multi-hospital system

As Presbyterian hospitals in Albuquerque became more financially stable, leadership began to consider other ways to expand services and meet demand. They began to explore the idea of delivering services to the more rural areas of New Mexico, with the purchase of the 21-bed Belen hospital in 1971. Over the next decade, Presbyterian built or signed management contracts with at least six different rural facilities. The expansions occurred because, as explained by then-hospital

---

[2] Palmer, M., & Beck, B. (2008). *The First 100 Years at Presbyterian.* Virginia Beach, VA: Donning Company Publishers. Pg. 119.

administrator Woodham, "All those people had a need" and, "We didn't want to lose patients to other hospitals." As the organization grew, the administration had to adopt practices with a system-wide focus. Dick Barr, hospital administrator in the 1970s, wanted the hospital to be "big enough to stay small…We should be big and healthy in order to have the financial resources necessary for success. Yet we should stay small enough to remain local, independent, and not-for-profit and to continue to control our own destiny and reinvest in the community."[3]

First attempt at a health plan

During this time, Presbyterian's leadership also began to realize that "financing and delivery of health care went hand in hand."[4] In the early 1970s, with the support of President Nixon's health maintainenace organization (HMO) planning and execution grants, Presbyterian decided to try their hand at health care financing and launched MasterCare. However, Presbyterian had very limited experience in the health coverage industry, and the HMO struggled financially. Physicians were "boycotting the new plan and resisting any payment reductions," explained Peter Snow, senior vice president of Strategic Planning Services, and "major customers would not accept a rate increase to cover physician demands." After a few years, Presbyterian had to shut down its health plan. When MasterCare closed in 1982, it had about 12,000 customers.

At the same time that Presbyterian was struggling with MasterCare, a local competitor, Lovelace Hospital, also chose to start an HMO product. Lovelace was different from Presbyterian because it had an employed medical group, so they did not face the same physician resistance. They were therefore able to use the HMO structure to offer lower prices to their customers. While MasterCare went out of business, Lovelace continued to grow from 6,000 to about 50,000 customers by 1982, and became the only HMO in the market.

When MasterCare closed, Presbyterian leadership thought that those who had been enrolled in the plan would continue to receive their services at Presbyterian. Instead, they found that former members favored an HMO plan, and transferred their care to Lovelace. Presbyterian's MasterCare experience and subsequent patient exodus showed Presbyterian the power of health care financing and the importance

In the early 1970s, Presbyterian introduced their first health plan.

---

[3] Ibid, pg. 138.
[4] Ibid, pg. 186.

of a physician group. It gave them important information that planted the seeds for their next attempt. "It was not a commitment as much to managed care as it was a commitment to establishing a financing link that made insurance affordable and available to the communities we serve," said Barr.[5]

The beginnings of an integrated model (1980–1990)

Health plan

In the early '80s, Presbyterian decided to try again to enter the health care financing industry, this time with a preferred provider organization (PPO). Initially, the idea was to create a partnership between Presbyterian, St. Joseph (another local hospital), and Blue Cross. Soon after, though, Blue Cross left the partnership. "Ninety-nine percent of our insurance expertise left when Blue Cross left," jokes Snow, who was put in charge of the project. He brought in a senior manager who had previously designed managed care arrangements for the United Automobile, Aerospace and Agricultural Implement Workers of America (UAW) in Michigan. Under his guidance, Presbyterian decided to offer an HMO product with risk-bearing capitated agreements.

In 1986, HealthPlus of New Mexico, an HMO joint venture between Presbyterian and St. Joseph, enrolled its first patient. This time, things were different because, "we had external experience and know-how," explained Snow. However, by the mid-1980s, the market had become competitive as California HMOs began to expand into New Mexico. "Price became the big issue," said Snow. Presbyterian needed to find a way to win in such a competitive market.

Looking to Lovelace, the most established HMO in the market, Presbyterian realized that a secret to their success was their "vertically integrated system. Lovelace doctors only practiced at Lovelace facilities," explained Snow. Originally, "Presbyterian doctors thought that Lovelace was inferior because it was a group practice," he continued. Eventually, however, Presbyterian realized that the staff model allowed Lovelace to offer a strong primary care system as an entry point to their entire system.

[5] Ibid, pg. 187.

In the 1980s HMO market, price became the big issue.

Practice development agreement: supporting the health plan and the beginnings of the medical group

Until this point, Presbyterian worked with private, independent medical staff. With the advent of the HMO, "we needed a physician network for our health plan," said Snow. Under the traditional private practice model, there was too much financial pressure on doctors. With declining reimbursement, increasing malpractice premiums and higher medical school costs leading to an increasing amount of debt, physicians were leaving the area. Snow told the story of how "one of our busy primary care physicians tacked up a note to his door that said 'left for Iowa.'"

In an attempt to maintain a robust network of providers, Presbyterian began to explore the idea of forming its own medical group. At first, there was open resistance to the idea. Jim Hinton, president and chief executive officer, describes conversations in which, "PCPs, and then specialists, said, 'If you employ one physician, I won't admit to your hospitals.'" As the economic pressure on doctors worsened, Presbyterian began to analyze which practices would best fit with the hospital system's goals and mission. Using some of the first personal computers in the organization, they evaluated criteria such as geographical area and practice type.

As an intermediate solution, Presbyterian created Practice Development Agreements with several practices in the Albuquerque area. Through these agreements, Presbyterian took responsibility for the facilities, employees and supplies, but contracted with the entity for professional services. Doctors were paid a salary based on their previous year's income taxes. The agreements "were less threatening to physicians and gave them a sense of independence," said Snow. However, getting the compensation agreements right was difficult. Many of the agreements were made with practices in the red, leading to difficult and defensive compensation discussions. With doctors on salary, "Presbyterian hoped that providers would maintain their productivity levels, but we did not have the infrastructure to know if a doctor was in the office or in Miami," explained Snow.

Solidifying PHS (1990–2000)

In 1995, Hinton became CEO of PHS and began to solidify the organization as an integrated system. In 1996, he orchestrated a series of discussions among staff leadership and the board to more clearly define PHS's purpose, vision, values and strategies. These organization-wide principles were visually displayed in an oval that became known as "the Egg." In order to connect the entire organization to this

> Presbyterian began to explore the idea of forming its own medical group.

INNOSIGHT INSTITUTE

newly defined mission, each individual staff member now also develops his or her own individual job Egg. Hinton explained, "After many thoughtful conversations with our board, we collectively reached the conclusion that our model of integrating the financing and delivery of care made sense. So we set out to grow the health plan and deepen our commitment to the medical group."

Forming Presbyterian Medical Group

To increase consistency and legal clarity, Presbyterian decided to convert the Practice Development Agreement entities into a group of employed physicians. In 1995, Presbyterian Medical Group (PMG) offered its first employment contracts. "Overnight, we transformed into a medical group," recounted Snow. Most physicians who had participated in the Practice Development Agreements signed on. A few, however, decided to remain on their own, preferring the control and entrepreneurial nature afforded by private practice.

In the initial stages of PMG development, leadership knew that they had to think consciously about the type of doctors they were bringing into the medical group. According to Hinton, leadership asked "Are we attracting enough long neck giraffes, not just short-necked ones?" "Long neck giraffes" referred to physicians focused on running a high quality practice. PHS wanted to hire physicians who had evolved to have "long necks and eat at the top, above other animals," and not just those that were joining because their practice was struggling.

Shortly after its formation, PMG went through its first major trial, known within the organization as the "heart wars." In 1997, a hospital investment company began discussions in Albuquerque about starting a cardiology specialty hospital. New laws passed in the early '90s promoted this type of hospital and many were springing up around the country. This was worrisome to Presbyterian because it threatened to take away cardiology care that traditionally had helped to subsidize other less lucrative services provided by the hospital. Many physicians in the prominent cardiology practices showed interest in the new hospital. Hinton explained, "The mid-to-late '90s was a time of significant growth in this organization [PHS]… and I think independent specialty physicians saw that Presbyterian and the health plan were growing and may have felt that we would use our size to their detriment. Well, that was never our intent."[6] Several specialists chose to work with Presbyterian and

---

[6] Ibid, pg. 217.

start the Presbyterian Heart Group because they thought it would "help [them] deliver excellent care for their patients and that cardiology care is best delivered in a general hospital."[7] The "heart wars" brought specialists to PMG who might not have made the switch to a staff model otherwise.

HealthPlus leads to Presbyterian Healthcare Plan

Meanwhile, Presbyterian's health plan was experiencing several changes. At the start of the '90s, Presbyterian bought out St. Joseph's share in the endeavor because "[St. Joseph] thought it was to fill beds. We saw it as a way to get closer to the customer, change incentives, and get better information than just a hospital system could get," explained Hinton. The health plan was also experiencing enormous growth. The good reputation of Presbyterian Hospital helped enroll new customers and grow their plan, which was then named HealthPlus. In 1995, to capitalize on Presbyterian's positive position in the market, the plan's name was changed to Presbyterian Healthcare Plan (PHP) to more closely associate the two entities.

PHP also grew by adding product lines. When New Mexico began a Medicaid managed care program in 1997, Presbyterian was awarded a contract and eventually enrolled over half of the qualifying individuals. In 1998, PHP bought out another company to expand its Medicare products. The purchase brought 30,000 new commercial customers and 20,000 Medicare customers.

By the end of the '90s, PHP was the largest HMO in the state with 314,000 members in 1998, but the organization was straining under its enormous growth. The financial models being used at that time were not viable. PHP was behind in claims payment and, in some cases, was paying claims twice. Hinton and PHS leadership developed Business Plan 2000, with the goal of "achieving a $50 million turnaround for the bottom line. We essentially wanted to reverse the loss and have a $15 million profit," explained Hinton. PHS implemented new and more disciplined management processes and achieved the goal. The main question asked that year was "What part of the $50 million rebound does this solve?"[8]

In 2002, CEO James Hinton developed new metrics for the organization.

[7] Ibid, pg. 219.
[8] Ibid, pg. 229.

PHS in the 21st century (2000–present)

The Three Things

In 2002, Hinton wanted to develop new goals for the organization. Inspired by the PHS turnaround, and driven by a new national focus on clinical outcomes, Hinton and his team developed three metrics to drive organizational excellence. They sought to achieve the Malcolm Baldrige National Quality Award, results in the top 10% in patient safety, and a double-A financial rating. The financial rating goal came as a direct response to the financial difficulties the organization faced in the late 1990s. "PHS recognized the importance of financial stability to be able to fund patient safety and quality," explained Paul Briggs, chief financial officer. The "Three Things," as they were dubbed, focused the organization on clear metrics for achievement. They were also "outside assessments of the organization, so they forced us to maintain a broader perspective," explained Hinton.

The 21st century has continued to bring growth to PHS. "Our growth has just begun stabilizing in the last two to three years," said Todd Sandman, director of public, government and community relations. PMG membership more than doubled between 2000 and 2005, with specialists outnumbering PCP providers for the first time in 2005. Between 2003 and 2008, PHS invested $350 million to expand hospital services at several locations, including a 150,000-square foot expansion of the flagship Presbyterian Hospital in Albuquerque. In 2008, PHS began construction on a new hospital facility in Rio Rancho.

Current PHS snapshot

PHS is currently the largest provider of health care in New Mexico, serving over 700,000 New Mexicans through their delivery system or their health plan, and is the only private, not-for-profit health care system in New Mexico. Currently, about 10% of PHS patients get their care exclusively through PHS entities (PHP, PMG and PHS hospitals) (Appendix A). PMG employs almost 500 practitioners, including PCPs, specialists, hospitalists, and midlevels. PHP is currently the largest health plan in the state, with a network of over 6,000 practitioners and facilities throughout New Mexico and over 418,000 members. The National Committee for Quality Assurance (NCQA), an independent, not-for-profit organization dedicated to measuring the quality of America's health care, has given all three of Presbyterian Healthcare Plan's product lines (Medicare Advantage, Medicaid, and Commercial) its top rating of "Excellent."

II. DISRUPTIVE POTENTIAL OF PRESENT-DAY SYSTEM

There is a sense that "the things that need to happen are just beginning in our system," said PHS Board Chair Larry Stroup. "I would like to believe that five years from now we will have many major things implemented widely, but I think it's going to take a lot longer," he added. These sentiments were confirmed in other conversations with leadership about how PHS views several components key to innovation (Figure 1). According to Briggs, "We are average in many cost areas.

Figure 1 *General assessments of PHS leadership regarding components of disruptive innovation*

Steps to Disruptive Innovation	Where is PHS?
Moving care to more cost-effective venues (e.g. retail clinics, employer sites, e-visits)	**Unified view** – This is happening at PHS.
Reducing and preventing acute and emergent illnesses through effective patient management	**Divergent View** – Some believe that PHS is doing this well. Some believe that PHS thinks about it, but has not yet put it into action.
Freeing up specialists and other expert providers to focus their attention on sicker patients	**Divergent View** – Most believe that PHS has thought about it, but have not put it into action. Some believe it is already happening at PHS.
Encouraging everyone to practice to top of license	**Divergent View** – Most believe that PHS is thinking about it, but not actively pursuing it. Some believe it is already being implemented.
Expressing a shared belief in quality guidelines and evidence-based medicine	**Unified View** – Strong understanding of its importance, but not the supporting systems to implement.
Leveraging information and decision tools	**Unified View** – Understanding of its importance but still working on fully utilizing.
Managing overall cost of care, and not departmental profit and loss	**Unified View** – Talking about it, but no implementation.
Tracking the health of populations rather than individuals	**Divergent View** – Most believe that it is understood but not implemented. Some believe it is not really a focus.
Engaging and incenting consumers to take health care out of exam room	**Divergent View** – Some believe that it is just starting to be talked about. Some believe it is not really a focus.

We have the component parts and have started down the trail to squeeze out inefficiencies. Our lower investment in automation and information systems has been a weakness, compared to other health care organizations." The executive team at PHS is still working on coming to consensus about many of these ideas.

Enablers of innovation: data collection and dissemination

Almost all PHS leaders interviewed mentioned the importance of data within PHS, most specifically, the power of having access to both claims and delivery data in one system. Senior Vice President and Chief Nursing Officer Kathy Davis said, "You don't have to be integrated to use data, but it allows a broader data set to look at." For example, hospital administrators can get aggregated cost data on their PHP patients, which "You can use as a surrogate for the whole population," explained Lauren Cates, vice president of central New Mexico operations. Conversely, PHP case managers, who track and help manage care, have access to a patient's hospital records, which are often more detailed than claims records. Many interviewees mentioned wishing they had greater access to data from other parts of the system; however, they recognized that data privacy is taken very seriously by PHS, with controls on access and arms length transactions maintained between the financing and delivery pieces of the business.

Internally produced data

Using the framework of the Malcolm Baldrige National Quality guidelines, PHS instituted a performance management system that tracks effectiveness in clinical outcomes, customer satisfaction, staff retention, and financial results. A few years ago, PHS began to collect data internally using a system called PresTrack, though it took about two years to bring the data to a point where it was trusted as reliable across the system.

Internally, PresTrack data is used to provide feedback at several levels of the organization. Goals are measured on what is known as the Board Scoreboard. The scorecard "is what drives change," said Sandman. For members of the leadership team, Stroup said, "compensation is tied to indicators for management and there are bonuses for hitting targets." Committees throughout the organization, including board committees, the PHS executive group, and staff councils all track metrics that ultimately relate to the goals being measured by the Board Scorecard (Appendix B). "As you go down the organization, you'll see the same system, but with more detail"

on the specific area or function, Sandman explained.

At the clinical level, individual and practice data is shown to providers on a monthly basis. As clinical data was developed, providers and nurses were asked for feedback on the accuracy of the generated data, both in terms of the percentage of orders entered into the system and the outcomes for specific measures. Davis estimated that the data has been reliably accurate for about the last year and a half. There are mixed feelings in the organization about whether provider data is truly driving change. Davis' opinion was, "Once they see the data, providers are motivated to improve." However, Jason Mitchell, medical director of clinical information, said, "We currently operate off retrospective data, which is harder to act on than real-time data. Once we have data at the point of care, that will allow clinical teams to be more agile and responsive and improve both patient care and board-level metrics."

Additionally, a subset of PresTrack data is published on the PHS Web site. Originally, the publicly published PHS data "was very controlled," said Sandman. As more data became available and PHS saw its importance, "we said, 'Let's just put it out there,'" continued Sandman. PHS has tracked web hits to the site and found that they are very low in comparison to other information provided on the organization's Web site, such as clinic locations. "There doesn't seem to be a lot of public interest, and terminology is a barrier to patient utilization," explained Sandman. "The whole process is in an early stage." The publicly published data serves at least two purposes for PHS. The first purpose is patient education and the second is to "build internal tolerance for having it out there and realizing the world doesn't collapse," said Sandman.

There is still a general sentiment that PHS could be doing a better job of collecting and analyzing data. Though there is a widespread understanding at PHS that "we have to measure, have to report, and do the right thing with the data we have," Mitchell also articulated that, "we have to keep moving forward, and ask what we can change and how we can make it better." "The current IT system is inadequate. We need real-time data," said Davis. To that end, PHS has been working on implementing an Epic software-based electronic medical record system (EMR) to be fully operational next year. Additionally, PHS has been shifting focus from inpatient data collection to also collecting information at the outpatient level. "Most care is delivered outside the main hospital facility," explained Hinton. For example, PHS registered 45,000 hospital discharges in the last year, but over one million outpatient visits. The additional data is expected to help "drive down

PHS has been shifting focus from inpatient data collection to also collecting information at the outpatient level.

utilization, change physician incentives and payments, and encourage panel management," said Mitchell, because it will support an internal feedback loop that will reinforce these practices.

Externally produced data

There are several national organizations analyzing PHS data and comparing it to other institutions nationally. PHS monitors much of this data, but not all of it drives internal change. Data from the Center for Medicare and Medicaid Services (CMS), for example, "does not drive change without having the operational systems and structures in place to affect change," said Mitchell. Cates explained, "We always look at CMS core data, but most government published data (like CMS) is based on Medicare fee-for-service plans, which doesn't capture all of our patients." PHS has asked organizations, like CMS and the Dartmouth Atlas project, to recalculate their data to take into account Medicare Advantage patients so that it is more relevant. However, for a metric such as mortality, Davis said there is less focus on changing the metric number and "more on care delivery, how we are handling patients and improving protocols" around mortality. Patient safety, one of the "Three Things," is measured by outside data provided by Leapfrog.

Disruptive practices made possible by integrated care model

Primary care: the medical home

In July 2009, PHS began a medical home pilot project in its Isleta clinic. The medical home model of care is currently incubating several innovations in care delivery. PHS describes the medical home project in two parts. The first explores alternative venues of care, and the second revolves around expanded care teams. While few of the medical home ideas are exclusive to PHS, their implementation, facilitated by the involvement of PHP as part of an integrated system, is innovative. For providers, PHP can develop reimbursement mechanisms that pay for these programs and incentivize doctors to use them. For patients, PHP can design products that encourage utilization of these new services through features like access and limited co-pays.

The medical home project was developed not only to improve patient care and lower cost, but also to address the shortage of physicians in New Mexico. "One of the reasons the medical home got off the ground is because two primary care physicians left the Isleta clinic," explained Snow. "The doctors said they left because

a lot of what they were seeing wasn't medical," he continued. The innovative medical home ideas allow the clinic to continue seeing a high volume of patients despite the loss of the two doctors. It also transitions portions of the patients' medical care to others on a care team best suited to do the job.

Telephone and Internet visits

One goal of the medical home project is to keep patients out of the hospital or clinic when appropriate. To this end, PHS has piloted telephone visits and eVisits, done over the Internet. These appointments can be used for non-urgent symptoms, and are enabled by new IT systems that combine decision support and data-collecting software. Patients using the eVisits program are guided through a dynamic series of questions tailored to gather the information that will be most useful to the provider. The provider can then use the collected information to advise the patient, either giving them instructions for care or, if warranted, directing the patient to the most appropriate care provider.

There are two barriers to using alternative visits. The first is that most plans do not reimburse for a non-office consultation. There is a Current Procedural Terminology (CPT) code for telephone appointments, but it has no corresponding reimbursement rate. PHP has started paying for eVisits under some plans and patients with plans that do not cover eVisits can still use the program for a fee. However, these circumstances limit their use. The second barrier is physician incentive to adopt these new types of visits. Most providers are currently paid based on Relative Value Units (RVUs), and there are no RVU credits currently assigned for alternative visits. It will take a change in provider compensation to encourage adoption. PHS is looking to roll out a new compensation plan next year that will address this issue as well as other quality-based criteria.

Group visits

Group visits are the other component of alternative venues of care currently being piloted in the medical home project. Group visits bring patients with similar disease states to the office, allowing them to talk with a provider and each other about their condition at the same time. "A provider often says the same thing multiple times a day to different patients. The group visit allows the provider to say something once, but have it heard by many," said Darcie Robran-Marquez, medical director for PMG's primary care service line. Davis said it also allows participants to "hear that other patients are dealing with the same health issues," which can be "motivating."

The groups are led by providers, educators or behavioral health specialists but "patients drive the agenda," explained Davis, so that they get the information that is most valuable to them.

Care teams

The clinic participating in the medical home pilot project utilizes a physician to lead care teams. See the chart on the following page for team members and descriptions of their roles.

As described below, each member of the team contributes to the care of the patients, often doing tasks traditionally done by the physician. A specific goal of the

Figure 2 *Care team members*

Role	Responsibilities	Reimbursement
Physician Lead	Leader of the team	FFS reimbursement
Pharmacy Clinician	Able to monitor certain disease states, write prescriptions and monitor medication interaction	FFS reimbursement
Behavioral Health Clinician	Half of time dedicated to traditional behavioral health visits. Half of time reserved for "warm handoffs" from PCPs.	FFS reimbursement
Care Manager	Helps with patient chronic disease management and maintenance of disease registries	Funded by PMG
Care Manager	Tracks high utilizers and works with them to improve care. Only available for PHP patients.	Funded by PHP
Promotora	Lay health coaches, members of the community, trained through New Mexico community college. Act as liaisons between the patient and medical providers, helping to overcome non-medical barriers to care such as language access, transportation needs, etc. They also provide health education to the community.	Funded by PMG

medical home project is to "utilize team members to the highest of their abilities," explained Robran-Marquez. The care team approach allows providers to focus on the most complicated problems patients present, and results in some patients not even needing to see the physician. Because the physicians are now seeing primarily the most complex patients, some are hoping the care team model will eventually enable longer appointment times and seeing fewer patients in a day.

Internally, one of the biggest challenges to successfully implementing care teams is increasing the physician's comfort in leading them. "Physicians have to learn to manage teams and they are not used to it," explained Davis. The skill set required to manage a team and delegate responsibility is far different than that used to practice medicine. Because most physicians are used to providing all care themselves and because they feel they are ultimately responsible for the work, "they have to check everything. The rework rate is high," said Davis. It takes time and experience for "doctors to get used to handing things off. They need to build confidence in managing teams," she continued.

Another challenge for implementing care teams, as with the other medical home components, is reimbursement. Fortunately, services provided by pharmacy clinicians and most behavioral health clinicians are reimbursable. However, under the current system, if a patient sees all three providers in one visit – meeting the medical home goal of comprehensive care when the patient needs it – "there would be three different co-payments," explained Robran-Marquez. The PHP medical home plan being developed as mentioned above would help solve this problem by considering all consultations with members of a care team as one visit, most likely under a capitated payment plan. In this way, the clinic gets predictable payments to cover services rendered, but the patient would only pay one co-payment.

New compensation and reimbursement models

Almost all members of the leadership team at PHS mentioned the need to move away from compensation based on RVUs and FFS reimbursement. "Reimbursement and compensation are the biggest hurdle," said Robran-Marquez. PHS is using the medical home project to implement new payment and compensation models. "Paying on RVUs is at odds with incentives for keeping patients out of the hospital or clinic," said Robran-Marquez.

To change provider compensation, the next step of the project is to pay doctors in a different way (see Figure 3 on the following page).

PHS is using the medical home project to implement new payment and compensation models.

Figure 3 *New model for physician compensation*

Prior model	New model
• 100% RVUs • Up to $15,000 Outcome/Quality Bonus	• 60% RVUs • 15% Outcomes/Quality • 15% Panel Management • 10% Use of Alternative Venues of Care

There has been some concern expressed that a shift away from RVUs will make doctors less productive. "It is difficult to maintain productivity when you move away from RVUs," said Stroup. Hinton responded, "We are not lowering productivity, but changing the way productivity is defined."

The new compensation model created in the medical home program is expected to be rolled out to all PMG physicians in 2011. All physician compensation will be based on the criteria developed for medical home doctors, but the percentage of salary coming from each will vary depending on the doctor's role. Stroup said, "the new compensation model is moving in the right direction, but is still based too much on RVUs. However, if we went as far as we need to, we could blow up the medical group. " PHS needs to find a way to "motivate doctors to serve more patients and serve them better," he added, without using RVUs.

The medical home program is also talking with PHP to change the way services are reimbursed. Currently, PHP is exploring ways to include medical home reimbursement in its products, including a specific health plan product to support the medical home. The new product would pay capitated rates or a per-member-per-month care management fee, and potentially include quality payments or bonuses. A capitated payment would allow the medical home to use the reimbursement to pay for the services deemed best and most appropriate for each patient, and pay for services not currently funded, like some behavioral clinicians, group visits, and *promotoras*.[9]

---

[9] Promotoras are community members who serve as liaisons between their community and health organizations.

Other aspects of the medical home project are being disseminated throughout the organization. For example, clinics not involved in the medical home project are beginning to implement group visits. By the end of 2009, behavioral health clinicians were also integrated in all of the central New Mexico primary care clinics. Once these innovations are spread across the PHS system, they are expected to move outside the system as well. The innovations in reimbursement are currently only available to patients under PHP. The goal is to codify these new reimbursement ideas, using data collected from the pilot project to prove cost savings. PHS can then encourage adoption of these programs by other third-party payors and enable access for all patients in the PHS system, potentially inspiring other providers to adopt the model as well.

Disrupting traditional hospital revenue: Hospital at Home

The concept of Hospital at Home (HaH) was born at Johns Hopkins, where Bruce Leff, M.D., conducted a pilot of the concept of caring for patients, who would normally be hospitalized, at home. The initial pilot, though small, showed promising cost and quality results. Despite the positive results, Leff was not able to grow the program at Hopkins because of funding constraints – no one would reimburse for care provided in this new model. When Presbyterian leaders first learned about HaH, they felt that PHS, as an integrated system, could explore such a model and test its efficacy on a larger scale.

When Lesley Cryer, executive director of Presbyterian Home Healthcare Services, heard about the HaH program, she thought, "You're nuts. The reason we created hospitals is because they are more cost-efficient." But, over the next year, Cryer worked to build a virtual hospital, developing a business plan and coordinating 12 project teams to address issues such as billing/reimbursement, care paths, durable medical equipment (DME), medications, pharmacy, and staffing. During the process, "we saw greater cost saving than expected," over $2,000 of savings per patient and equal or better quality outcomes compared to patients in the hospital. PHS purposely collected data using the same measures monitored by hospitals to get comparable data. HaH patients suffered almost no incidences of complications normally associated with hospital stays, such as falls and infection. Davis was also impressed by the very high satisfaction ratings the program received because "most importantly, the patient stays in control."

Cryer attributed the successful implementation of HaH to several factors. Externally, "A key driver of HaH was that there were not enough beds to meet

Hospital at Home produced even greater cost savings than expected.

the need," she said. In the analysis of how to increase capacity, PHS determined that developing the HaH program would be significantly cheaper than building new beds. Once Cryer built the business case, "there was no resistance – it was a no-brainer," she said. Internally, Davis said, "The home care and hospice structures allowed HaH to come into existence." PHS already had a large network of physicians and nurses experienced in providing in-home care, the infrastructure for DME and pharmacy delivery, and the mentality to embrace the concepts underlying HaH. "Home health nurses already had the protocols. It was just a matter of stepping it up," said Davis.

The integrated nature of PHS "allowed everyone to talk," said Cryer. All of the stakeholders came to the table to work through the requirements and concerns related to the implementation of HaH. "There were frank, enterprise-wide conversations happening" around HaH, said Dennis Batey, president of PHP. "There was enormous buy-in across the organization, from both executive leadership and physician leadership." Having PHP at the table gave HaH access to important cost data and allowed PHS to develop a reimbursement mechanism for the program.

When Hopkins first saw the benefits of HaH, they filed a waiver with CMS to cover the services provided under the program, but it has been under consideration for over two years. The main concern of payors, including CMS and PHP, was "to make sure hospital patients are getting needed services, but it does not become an unneccessary convenience" for patients who would not otherwise need hospital care," explained Batey. PHP pushed HaH "to be a data-driven process" and monitored the outcomes closely (Appendix C).

At PHS, in the first year, claims from HaH patients were flagged in the PHP system and paid on FFS rates. However, PHP has been tracking cost data using these claims, which has shown the cost savings of the program mentioned above. The next step is to develop a bundled or capitated payment, based on MSDRG case rates, that includes 90 days of post-hospital care and is at risk for providing that care. Currently, the program is only available to PHP patients, but the new reimbursement mechanism is structured so that other health plans, and eventually CMS, can adopt it. Part of PHS's commitment to Hopkins when they signed onto the project was to "help spread the model," explained Cryer. "We are talking to other health plans, like United, to push adoption to new places," she said.

In addition to the new reimbursement rates, the second phase of the program will include new admission procedures and six diagnoses: deep vein thrombosis (DVT), pulmonary embolism (PE), urosepsis; nausea and vomiting; dehydration,

and neutropenic fever. Cryer is developing a protocol for admitting patients to HaH directly from the provider's office, instead of having the patient visit the emergency room (ER) first. The challenge is to develop clear and appropriate admission criteria and the right incentives to encourage doctors to use them. The first provider group to use these criteria will probably be the Heart Group, as they see a high volume of eligible patients and are a well-established group at PHS.

Telehealth

Another innovation born of the Home Health team is telemedicine, in which technology is used to monitor and sometimes treat chronic obstructive pulmonary disease (COPD) and congestive heart failure (CHF) patients from their home, without the physical presence of a home health nurse. Like HaH, the program was developed to increase home health capacity. Since it cuts out travel time, especially in more rural areas, nurses are able to see more patients in a day.

Telehealth units can contain high resolution video components, which not only allow communication between a nurse and a home health patient, but also allow nurses to conduct examinations such as wound assessments and listening to the patient's heart and lungs remotely. The units can also contain equipment to monitor vital signs. An internal computer records the readings, sends them to a central database accessed by the nurse practitioner, and displays alerts for abnormal readings.

The quality and cost data collected thus far is positive, showing a decrease in re-hospitalization, an increase in nurse productivity, and high patient satisfaction. In 2009, there were only four readmissions out of 55 patients under telemedicine disease management. These 55 patients had conditions including CHF, respiratory diseases, hypertension, and diabetes. As with many other innovative practices at PHS, however, reimbursement continues to be a hurdle to wider implementation.

Telehealth visits are not directly reimbursable under Medicare. This care, however, can be cost effective when managed correctly, since home care is reimbursed as a bundle. Another possible barrier is the technology itself. Telehealth can only be used on patients who are technologically and physically able to operate the unit that is placed in their homes. Patients who receive units are given an orientation and trained on its use. PHS is working to expand the program, both by increasing the diagnoses approved for coverage and by collecting cost data to prove efficacy to other payors.

Some disruption of specialists

PHS is expanding telehealth programs based on initial positive results.

Several members of the leadership team mentioned instances of specialist disruption in the PHS system. Most were attributed to PCP attempts to manage patients during a lengthy referral lag time caused by specialist shortages, as opposed to a coordinated internal strategy. However, many leaders mentioned the possibility of codifying the disruptive practices more formally in the near future.

The medical home project described above has been an important catalyst for specialist disruption, especially in the area of behavioral health. First, the use of behavioral clinicians as part of the care team gives PCP offices greater capacity to handle behavioral health issues by taking care of less complicated cases and preventing escalation of severity through easier and earlier access. Second, physicians are taking on patients with more complicated behavioral health needs. Robran-Marquez gave the example of a PCP whose patient would have to wait up to five months to see a specialist. The PCP consulted a psychiatrist by phone, who helped her develop a care plan for the patient until he could get in to see the specialist. Robran-Marquez explained that most specialists are not resistant to PCPs taking over more complicated patient care because they are so overburdened. However, they are not always able or willing to provide things like phone support because they feel it takes time away from the patients on their schedule.

Outside of the medical home project, primary care physicians are not only offering patient care plans, but also performing procedures that used to be done by specialists. There are several dermatology procedures, including many skin biopsies that are now done in the PCP's office. Additionally, many PCPs with sports medicine training are handling non-surgical orthopedics appointments. Through the regional delivery system, which serves the more rural areas of the state, PCPs talk to specialists in the central Albuquerque region. The communication helps patients of PCPs avoid traveling long distances to the city for specialist care. Vice President of Regional Operations Robert Garcia tells of a PCP and midwife who were talking to an OB in Albuquerque to develop a care plan for their patient. In cases where there has been successful transition of care from specialists to PCPs, and especially in areas where specialists are overburdened with patients, the idea is gaining traction. The medical home project is "raising conversations about who/how we care for patients from a service line outlook," said Michael McGrail, senior vice president and executive medical director of Presbyterian Medical Group. However, McGrail added, "it's still a prickly conversation."

Virtual nursing school

Over the past year and a half, PHS has been developing the Pathways program, a virtual nursing school for PHS employees. Most of the coursework is done online at affiliate nursing schools with PHS staff providing clinical training. Participating employees receive a full scholarship in exchange for a commitment to staying at Presbyterian once they complete the program. The goal of the program is to "increase the number of nurses in the marketplace without supplanting other schools," explained Davis, and to develop more "highly skilled nurses." A secure pipeline of highly skilled nurses has helped PHS alleviate some of the pressure on the delivery system caused by nursing shortages. Staff who participate in the associate degree or R.N. to B.S.N. program commit to working at Presbyterian for two years or 3,000 hours at a minimum of 0.5 full-time equivalent (FTE). Those who receive a master's degree commit to three years of employment.

Changing physician culture

"Culture is an adhesive that allows change and drives an integrated system," explained McGrail. "To fully take advantage of integration, you must understand the value of all the pieces." To that end, PMG is working to focus physician culture on and engage doctors fully in PHS's integrated model. PMG leadership is employing a two-pronged approach to achieve this goal.

In the short term, they are holding town hall meetings to discuss PMG culture, addressing qualitative questions like "What are we about?" and quantitative issues like "talking about the financial health of an individual practice versus overall PHS financial health," said McGrail. In addition to the town hall meetings, PMG is trying to put these discussions into action in a physician's daily practice. "We are working with service lines to push decisions down to the clinical level, with provider accountability for making the best decisions for the whole system," explained McGrail.

In the long term, PMG is working to attract and hire providers that are committed to the integrated model from the start. Mike West, administrative director for specialty care in PMG, explained that many providers still join PHS because "it is the 600-pound gorilla," feeling they have to join or get crushed by it. "Many providers seem to think PHS owes them for taking over their practice. Correct selection is the long-term solution. We need to find MDs who buy into the system and are willing to make the tradeoffs," said West. Several medical leaders

<div style="color:#b5123e">The Medical Group is working to build physician commitment to PHS's integrated model.</div>

suggested that PMG is "two to three years away from having a critical balance of employed physicians who have the right mindset" and three to four years away from having the right culture to fully engage PHS and the integrated model.

Challenge of managing medical device costs

Presbyterian grapples with decisions about what new technology to invest in and how to justify it. "Big investment questions come up a lot," said Cates. Two forces within PHS pushing for adoption of new technologies seem to be doctors, especially surgeons, and patients. Cates told the story of a provider who asked for a laser for urology procedures. "He used it three times and didn't use it again after that because he liked the old way better." She also talked about equipment for a laparoscopic colon procedure developed ten years ago. "It had worse outcomes than other procedures," she said, "but patients still wanted it. They still do." Hinton felt it was important to consider patient cost of care when making technology investment decisions and not just adopt popular new equipment in the market. "We need to stay on the forefront of technology, but don't see ourselves as needing to stay on the cutting edge," he said.

One big investment PHS is currently grappling with is the DaVinci Robot. Cates explained that the "doctors want it and say that patients are asking for it and are going to go other places if PHS doesn't have it." Additionally, doctors currently coming out of residency, especially in fields such as urology, may have only trained using DaVinci. However, many members of the leadership group are hesitant about making the purchase because "it is not proven to have better outcomes or provide care at a lower cost. A DaVinci robot is not going to help us cover more people," explained Hinton. Additionally, added Cates, "health plans don't reimburse more for using DaVinci."

III. LEARNINGS FOR OTHER HEALTH SYSTEMS

Why PHS remains a mixed model: the trade-offs of integration

Most PHS leaders agreed that it is important for PHS to maintain a mixed model of integration, instead of moving to a completely closed system. A mixed model helps PHS achieve its mission "to improve the health of individuals, families, and communities." "PHS has a goal of serving the whole community; it can't be limited to just those who are in a fully integrated system," said West.

A mixed model also helps PHS drive performance internally. "A full staff model gets insular. A network model maintains a healthy level of tension to drive achievement of goals," said Hinton. For example, there have been times when the optimal decision was to utilize in-house services already offered by the medical group or to build a new area of services within the medical group, and there were times when the optimal decision was for the hospital or the health plan to buy those services externally. Because you are "trying to be everything to everybody, the tension has to be talked about openly across the enterprise," said Chuck Baumgart, vice president and chief medical officer of PHP.

The tension can also make daily operations more complex and push leaders to seriously contemplate each decision they make. Cates described it as "wearing two different hats." One hat is being a hospital administrator, who helps all doctors whether they are PMG or contracted. The other hat is being a member of the PHS leadership team who promotes PHS. Cates described a new program to improve oncology care by training PCPs and creating better links between primary care and specialist offices. In this case, as with many programs at PHS, the question was raised, "'Should this be a PMG initiative or a service line initiative?'" she explained. Ultimately, the oncology program was rolled out as a pilot with PMG doctors, a determination made on the "ability to better influence PMG physicians."

Pilot programs can sometimes be a source of tension within PHS. Several programs, like the medical home and HaH, would not be possible in non-integrated settings. PHS can also discuss trade-offs that will affect the whole enterprise. "We know no one is paying and we are willing to run at a loss until we develop a system to validate the reimbursement," said Sandman. Vice President and Chief Financial Officer of Presbyterian Delivery System Dale Maxwell said, "PHS can implement pilots with speed and confidence. Others have skepticism and more bureaucracy." The historical trust between organizational entities allows pilots to be set up more quickly. Pilot programs are offered first to patients who use all three services provided by PHS. The data collected from these pilots is then used to encourage other providers, health plans, and hospitals to adopt these new practices or the reimbursement mechanisms that support them. However, some medical professionals expressed that it was difficult to have pilot programs that only served PHP patients. While providers who treat PHP patients differentiate themselves from other doctors as offering new and innovative programs, some felt that they were sanctioning different levels of care to patients by having pilots at their clinics open only to PHP patients.

> Historical trust allows pilots to be set up more quickly within an integrated system.

PHP's obligations to its network and to PMG are another example of tension in a mixed model. Outside contracts could potentially bring in more revenue but keeping PHP within PHS has certain advantages for the entire system. "We have to look at the overall system. PMG is building infrastructure, so it has fixed costs to cover. We might be able to purchase cheaper, but when it is performed in-system, it covers fixed costs internally," explained Maxwell. PHS has to think hard about this decision, said Hinton, weighing "the best market data, before relying on politics or emotion."

A mixed model can also drive change with entities affiliated with PHS through the sharing of knowledge and best practices. Cryer hopes to use PHS's relationship with outside payors, such as United Health, to encourage adoption of the new HaH model. Batey believes that by sharing evidence-based care guidelines and protocols with contracted physicians, "an IDS can provide support for community physicians, which strengthens the overall organization." Creating change with affiliated entities, however, can be more challenging than driving change internally. In care delivery, for example, non-staff doctors are not subject to all protocols and processes implemented by PMG. "We can invite everyone to participate, but we can only tell our PMG doctors they must participate," said Cates. Contracted doctors "are still trying to maintain financial stability through a reliance on FFS, so it is harder to influence them," said Briggs.

A closed model would also be difficult for PHS to implement because the shortage of physicians, specifically specialists, would make it difficult for PHS to build a robust enough network of providers. Davis explained that because doctors "don't want to lose autonomy" politically, it is difficult to get them to give up their practices to join a medical group. Additionally, Cates said, "we don't have all the specialties in [our] network," although it would be possible to "subcontract with those specialties and go at risk for the cost of care." However, West said the capacity issues make it "important to work with everyone, whether they are employed in the system or not."

Reaping the benefits of integration: quality at a lower cost

One way to see some of the benefits of a closed network within a blended system is to develop a narrow network insurance product, which can capitalize on the cost savings and increased quality often associated with integrated systems. While PHS does not currently market a narrow network product to the commercial market,

about 10% of PHS patients currently get their care exclusively through all PHS entities (PHP, PMG, and PHS hospitals). Medicare Advantage, which comprises about one-third of the 10%, operates like a narrow network product and is the best proxy PHS has to what the cost of care would be in a narrow network offering. The remainder of the 10% of patients do not have a deliberately designed product, but rather are part of a de-facto narrow network, and are therefore not tracked as a separate population.

Quality

Medicare Advantage members, who effectively have a narrow network product, have better outcomes than traditional Medicare FFS patients nationally. They also have better outcomes in two of three metrics than an average of members of the Alliance of Community Health Plans (ACHP), a consortium of community health plans. Baumgart attributed the trend to PMG admission practices and PHS discharge practices. These practices occurred due to a targeted focus on this population over the years, and with the support of PHP; it shows the advantage of an integrated effort creating better results.

There is limited data on the rest of the 10% of PHS patients who get their care exclusively through all PHS entities, those who are effectively narrow network patients. PHS data shows, however, that in measures of diabetes care, especially for compliance with recommended screenings, PMG doctors have at least slightly better outcomes than non-PMG doctors. Additionally, PMG patients used the ER less frequently than non-PMG members (Appendix D).

Cost of care

There is lack of consensus among PHS leadership about whether they are achieving lower cost of care for fully integrated patients. Some believe that there is no cost advantage. Batey said, "Presbyterian is not the low cost provider in the community. It is the gold standard of care. In the 'sweet spot' [narrow network], quality is better but not cost." Some leaders believe that PMG costs are lower than contracting doctors. Stroup said, "Coordinated patient care across all pieces of the delivery system and reasonably effective prevention in areas like diabetes prevention should result in a lower cost of care." Others believe that PMG is not used to managing care in a full cost world and there is no substantial difference between PMG and non-PMG doctors.

Medical group patients used the ER less frequently than non-PMG members.

Lack of clarity around cost of care is one reason why PHS has not offered a narrow network product. It is also unclear whether the New Mexico market understands the value proposition of a narrow network product. When purchasing insurance, "employers are not willing to engage in a story about quality of care. They don't look at our efficiencies. All they think about are premiums," said Neal Spero, chief sales and marketing officer.

Thoughts on building an integrated system

Starting

Many leaders recommended starting with a hospital when building an integrated system, as that approach has worked well for PHS. Hinton said, "I would start as a hospital because that's where the capital is generated. Physician groups don't retain money for investment. Health plans can generate capital, but don't necessarily have the mindset for integration." Briggs explained, "There are advantages to having hospital and FFS roots, such as focus on productivity, efficiency, and cost-effectiveness."

However, many interviewees also mentioned that the success or failure of an integrated system "depends on the market and the pieces that are already there," as Briggs said, who has worked with two different integrated systems over the course of his career. Stroup explained, "[PHS has] been successful because we had a market share of delivery that allowed the other business units to be successful." Other markets might dictate different paths to integration. Stroup added, "Organizations that appear to be most efficient or the quickest, like Geisinger, have started with physicians and then added delivery and insurance, but success does not depend on where you start, as long as you have all three pieces." Maxwell said, "I think the key driver is the physician group because they are in control of the cost of care. At PHS, that is the last thing we brought in, and that is why I feel we are still in infancy as an integrated system. An organization that is physician-driven and led is where you will get benefits."

Though PHS did not start with a health plan, PHP has played an important role in helping move the organization toward integration. Donna Agnew, vice president and chief informatics officer, said, "We are not using all the IDS capacity that we have, but PHP is leading us towards it." PHP leaders said that their health plan was often tapped as a source of innovation and new ideas. "PHP initiated PHS's focus on quality, outcome measurement, and administrative efficiency," explained Baumgart. Until recently, the Health Plan was the only entity housing and analyzing all PHS

data. Batey added that PHP was "open to taking business processes from non-health care entities, for example, using the Six Sigma process to improve the level of services in the health plan. Then the delivery side took the [lessons learned from] PHP and implemented them too." This is now happening with organization-wide data collection and analysis, which is starting to be moved from PHP to the delivery side of the business. As Maxwell explained, "I was ported over with other financial analysts that used to work at PHP. Decision support and the data warehouse used to only be at PHP – now we have a component of that on the delivery side."

There was no consensus among Presbyterian leaders about the effectiveness of using partnerships to develop an integrated system. Snow believed that partnerships can be effective, saying, "Not only do you not have to integrate, you might go out of business by trying." Snow also suggested that a payor/provider joint venture could develop new payment mechanisms. "Anything that decreases cost and changes incentives," Snow added, is worth exploring. Stroup, however, was a little more cautious about a partnership model. The board chair said, "Partnerships are great, but only in the short term. Our experience is that you can do that for a little while, but then one side gets greedy. Each side has separate people to report to, separate corporate structure, separate leadership and eventually one side thinks they are getting the short end of the stick."

Growing

Service area and scale were important considerations for PHS's growth, and Presbyterian's leadership continues to think about those issues today. Hinton said, "many integrated systems fail because they are in bigger markets, under national pressure and have no scale. Getting to scale is very important." The dynamics of the New Mexican market helped PHS get to scale. Stroup explained, "In PHS's case, we were lucky because we were in an isolated market. We didn't have national players. That allowed us to succeed. We probably couldn't replicate the same process in L.A. or another big market."

Though the organization has had significant growth, PHS has chosen to stay within the New Mexico region. The board has discussed expansion to other regions, including areas of Texas where some PHS patients already live. However, "our position is that it is imprudent," explained Stroup, especially given that organizations like Kaiser have had difficulty with expansion. "I think a defined geographic focus may be a secret to our success," he added. Hinton is still weighing the possibilities of expansion. He explained that taking a capital view of the organization suggests that

> The board has discussed expansion to other regions.

scale could be good for organizational health, including leveraging resources like IT and senior management. On the flip side, Hinton explained, "the Achilles' heel of IDS is implementation. When you get too spread out, it is harder to manage. We need to retain the ability to touch and influence all pieces of the system."

Patience and commitment are also key components to growth. "Building an integrated system takes a long time. It won't happen quickly. You can't acquire your way into integration," said Hinton. Instead, leaders suggested that integration requires time to work through the difficult patches. In the '90s, Stroup recalled, "when everyone else was bailing out, it was really scary. The medical group losses were big and it seemed like the red ink from that side would sink the organization." While other organizations had a shorter-term perspective, however, "we believed that the ultimate health [of PHS] was worth the pain on the way," Stroup added.

Financial health

From its earliest days as a hospital run with "shoe-box management" to the Business Plan 2000 models that allowed PHS to succeed, PHS has been focused on preserving the organization's financial health. To consistently achieve a AA bond rating, one of the "Three Things," PHS closely monitors their operating margin, cash on hand, and debt-to-capital ratios. Notably, PHS's operating margin is very healthy, which Maxwell attributes to "appropriate pricing and managing medical costs." Maxwell explained that since the process for setting prices is regulated, PHS focuses more on cost management, especially for hospital services. In 2008, Presbyterian made a concerted effort to reduce costs in response to worsening economic conditions. Focusing mainly on redeploying labor, PHS was able to achieve a 7.1% operating margin in late 2009, despite recessionary conditions. Also, Maxwell continued, "At PHP we try to hit an 85% medical loss ratio. We do well in administrative costs."

In addition to careful management, the integrated nature of PHS helps it achieve its financial goals. "If the health plan is profitable, [being integrated] is definitely an advantage to reaching the AA rating, even though, in general, an insurance company is seen as a risk. Rating agencies are more comfortable with us because being integrated helps us capture market share," explained Maxwell.

Engaged leaders

An active board and strong leadership were mentioned several times as critical for driving integration. "The board and senior management are fully committed to an

The integrated nature of PHS helps it achieve its financial goals.

integrated model and believe it is the only way for PHS to continue for the next 100 years," said Stroup.

With overseeing and coordinating the interaction of health entities that have not traditionally worked together, it is important to have "one driving board with fiduciary duty that is in charge of everything" said Hinton. Sandman explained that, "The board has an overall view of the system so they can drive accountability and quality." Stroup said that when discussing issues, "The board always asks, 'What is the net effect to the enterprise and the patient?'" This leadership has been a part of Presbyterian for many years. Jack Rust, former chairman of the board, described the hospital's leadership during the 1970s as, "There were no silent people who didn't express opinions. It wasn't a 'kissing your sister' board. They needed our opinions, wanted them, and listened to us. There was always good discussion, and frankly, I do not ever remember a vote that was not unanimous. We kept discussing until we reached agreement."[10]

Non-profit/mission-driven organizations

Some leaders mentioned that PHS's non-profit status helped with integration. "Being a non-profit allows us to be quality-driven," said Robran-Marquez. "It allows us more latitude because it allows us to use what would have been margin for a for-profit organization that had to satisfy shareholders," said Stroup. Having non-profit status also means that Presbyterian "fund[s] entire service lines and sub-specialties that are low or negative margin, which are not offered by most of our for-profit competitors," said Sandman, adding, " It might put more pressure on the hospital's higher-margin areas to be able to offer those services, but our strong commitment to areas like behavioral health comes from our non-profit outlook."

Additionally, it takes "leaders that have stuck around to work on integration," said Hinton. "The organization and culture have to evolve organically with the organization," he added. Cates said, "Leaders have to come to a place where they can talk about the tradeoffs." PHS has evolved a system where the leaders "meet enterprise-wide every two weeks to talk about what each [leader] is doing and how it will affect the enterprise positively or negatively," she said. It took the organization

PHS leaders meet enterprise-wide every two weeks.

---

[10] Palmer, M., & Beck, B. (2008). *The First 100 Years at Presbyterian.* Virginia Beach, VA: Donning Company Publishers. Pg. 139.

two to three years to move from what Cates called "forced arbitration" across entities to the current state, where many of these conversations happen spontaneously.

External environment

Capacity issues

One of New Mexico's salient health care issues is high demand and limited service-delivery capacity—mainly shortage of medical professionals and hospital beds. Capacity shortage seems to be an important piece of PHS's ability to drive innovation. This is especially true for moving care to less acute settings, as with the Hospital at Home program, and using extenders to provide patient care, as with the medical home project. Overwhelmed specialists, hospitals, and PCPs "are breathless trying to keep up with demand," explained Snow. This makes them more open to new ideas because they are not concerned about losing patients. Rather, they are supportive of alternative ways to help patients get services.

The rural nature of New Mexico also contributes to the capacity issue. Roughly 40% of the New Mexico population lives in the four-county area surrounding Albuquerque. The remaining 60% of the population is spread throughout what is geographically the fifth-largest state in the country. There tend to be fewer physicians willing to practice in rural areas, and those that do are often responsible for covering larger geographic areas. To address the scarcity of medical professionals, especially in rural areas, the state "allows 'lower' levels of care more often than in other states. For example, in New Mexico, psychologists can prescribe medication," explained Sandman. Additionally, innovations like telemedicine are used to bridge geographic distance. Robert Garcia, vice president of regional operations, gave the example of a psychiatrist conducting a group visit via teleconference. Telehealth units are also used in regional delivery to help nurse practitioners care for more patients. Cryer explained, "It cuts down on 'windshield time,'" referring to the time nurse practitioners spend driving from one patient's home to another. Using telehealth units, nurse practitioners are able to see eight patients in an eight-hour period, instead of the traditional five patients.

However, in some ways, rural areas make integration more difficult. PHS Regional Delivery, which cares for patients in more rural areas, is a smaller and less integrated group than the hospital's Central Delivery group in the Albuquerque area. For example, none of the PHP members in Regional Delivery are part of a plan that uses capitated reimbursement. That makes it difficult to "get Regional [providers

and hospitals] to cut costs and give up income," said Garcia, who is considering "going to PHP and other payors to talk about building capitated agreements based on the model at Central."

A market accustomed to HMOs

The New Mexico health care market differs from others because it has a history of limited delivery selection. Lovelace Hospital's medical group and integrated-care model evolved with the Albuquerque health care market. "Albuquerque had the benefit of Lovelace. Doctors practiced only at Lovelace Hospital and taught [consumers] that you don't need choice to get good health care," said Snow. When PHS introduced PMG and HMO products, they faced much less resistance than they would have in many other markets.

Additionally, in New Mexico, "not everyone contracts with all health plans, unlike other markets. For example, Blue Cross does not contract with Presbyterian," said Batey. This difference helps PHP succeed, explained Batey, as "Presbyterian may get business because employees want access to Presbyterian Hospital," which they cannot get from other plans. "There is more trust in PHS, so even though we are not always the lowest cost plan, we get the business," he continued.

Data transparency around outcomes in New Mexico

Many leaders at PHS noted one of the best ways to drive innovation was to develop networks of health care providers to share data and develop best practice guidelines. While there have been some discussions around data transparency and sharing, there is currently no driving force in New Mexico pushing for these goals. The State Hospital Association tried a data transparency program, but many institutions were reluctant to publish data. The state has mandated an independent group to develop a data sharing tool for providers in New Mexico, but without funding attached, there has been little progress. PHS has considered initiating a transparency project, but there is "natural resistance for competitors to partner if we are the ones taking the lead," explained Hinton. Since PHS is already invested in data collection, other hospitals fear that they will not measure up and so are reluctant to engage. Hinton added, "It would be helpful to have guidelines come out of a system that is larger than us, but it seems that won't happen here in New Mexico. It will have to come from somewhere else," such as a national effort.

Uninsured rate

At 23%, New Mexico has the second-highest percentage of uninsured people in the nation. It also has one of the lowest reimbursement rates in the country. Caring for such a high number of uninsured puts extra financial burden on the health care system and on PHS. Dramatic change, especially when it requires extensive financial resources, is harder to pursue because PHS has to maintain high levels of reserves to pay for indigent care. It is "harder to turn the system on its head," as Briggs put it.

Important next steps

Moving away from hospital culture

"There is a strong gravitational pull for hospitals to dominate a culture – we are still fighting hospital culture," said Hinton. One traditional aspect of hospital culture is the drive to improve the profit-and-loss statement by filling beds. "Hospital capacity at PHS is still measured on how full it is. Green [positive] indicates a fuller hospital," said Briggs. Davis added, "Many in PHS still think it's hard to say keeping beds empty is a good idea." Regulation also reinforces patient hospital stays. As an example, Davis pointed to Medicare rules that required patients to be in the hospital for three days before being allowed to transfer to a skilled nursing facility.

Batey said, "We need to see the hospital as a cost center." He added, "the locus for controlling costs is the doctors. Physicians decide who goes to the hospital and make the decisions that keep people out of the hospital." These ideas are just beginning to percolate at PHS. Cryer has a goal "to intervene upstream," that is, "wherever a patient touches down in the system, there would be interventions in place to keep him out of the hospital." The executive director of Presbyterian's Home Healthcare Services also described changes to post-operation protocol for joint patients to support this goal. Traditionally, post-operation joint patients are kept in the hospital to manage the administration of the drug Coumadin. Not only does this practice increase hospital stays, but it also often leads to the administration of additional tests. Home Healthcare developed a program to help patients manage Coumadin from home, moving them out of the hospital setting.

Quality though standardization and guidelines for care

"A key learning from PHS's quality journey is that things have to be standardized," said Sandman. Currently, PHS is using Lean Six Sigma teams to "examine and

change care models," said Davis. When a best practice is established by a Six Sigma team, it is shared with other members of the organization.

An understanding of and commitment to best practices is an important foundation for standardization and implementation of care guidelines. Hinton explained, "There is openness to guidelines and standardization where there is evidence—in about 15-20% of the cases. However, [in the cases where the evidence does not yet exist] there is resistance to decreasing variation in care for the other standards in order to be able to prove that they work better." Hinton hopes that PHS's move toward service lines will "isolate some energy around questions of evidence-based care in each line, including: 'What evidence exists? What do we need to find out more about?'" Another way to increase the use of guidelines is to increase data availability, especially of outcomes. For example, Mitchell explained that the new physician compensation model could "put more at-risk and base compensation on evidence and outcomes." He believed that PHS's new EMR system, set to roll out in 2010, will capture the data that will allow PHS to better track outcomes and provide the tools the care team needs to care for populations.

Pursuing and being open to new ideas

Many of the innovative ideas at Presbyterian have come from sources outside of the organization. Snow said, "Many of us spend time reading other sources and trying to bring in a lot of outside thinking." That was how Presbyterian leaders first found out that the Hospital at Home model was being developed at Johns Hopkins. Snow and others in the organization also looked outside of the health care sector for new ideas. "My model of effectiveness is Southwest Airlines," said Snow. Currently, Snow is pursuing an idea inspired by the Southwest check-in kiosk. The hospital's version of the kiosk would facilitate information collection from patients and could even include patient check-in from home. Snow is talking with NCR, a company providing customer self-service solutions, to refine the idea. "Breaking the current care delivery model depends on us making the customer more independent," the senior vice president explained.

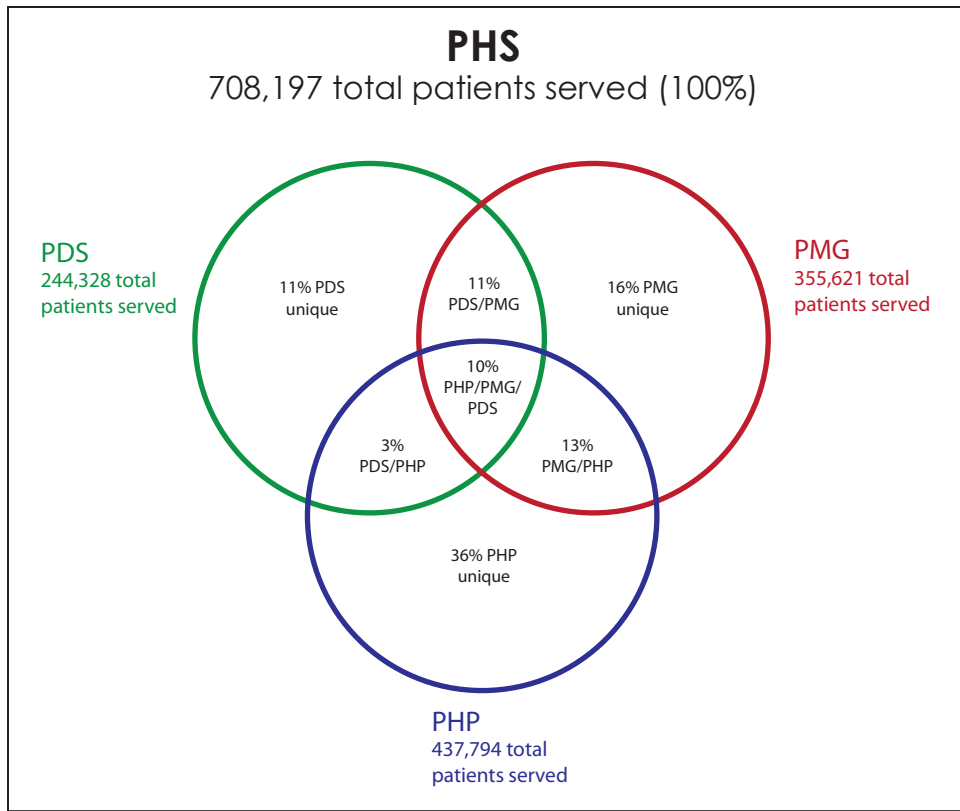## How payment reform can send the right signals

Many leaders at PHS pointed to policy change as being critical for improving health care, especially for lowering costs and changing payment mechanisms. "I would love to see government enable a fair playing field in health care," said Stroup.

Leaders in the organization looked outside of the health care sector for new ideas.

However, there is doubt that competition between health plans will drive down cost with, for example, the use of health exchanges. "What happens in single-hospital towns?" asked Sandman. "We should incentivize insurance companies to lower administrative costs, but that is only a small chunk of the costs," he continued. Spero added, "The real cost can be cut in delivery."

Many leaders mentioned Accountable Care Organizations (ACOs) as a way to drive change. ACOs would encourage physicians to "follow patients across the continuum of care," said Sandman, and therefore incentivize them to look at total cost of care. Additionally, ACOs would support changes in reimbursement. Physicians would be "paid for outcomes" and with "bundled payments," Sandman added.

Appendix A *Presbyterian customer breakdown*

PHS
708,197 total patients served (100%)

PDS
244,328 total
patients served

PMG
355,621 total
patients served

11% PDS
unique

11%
PDS/PMG

16% PMG
unique

10%
PHP/PMG/
PDS

3%
PDS/PHP

13%
PMG/PHP

36% PHP
unique

PHP
437,794 total
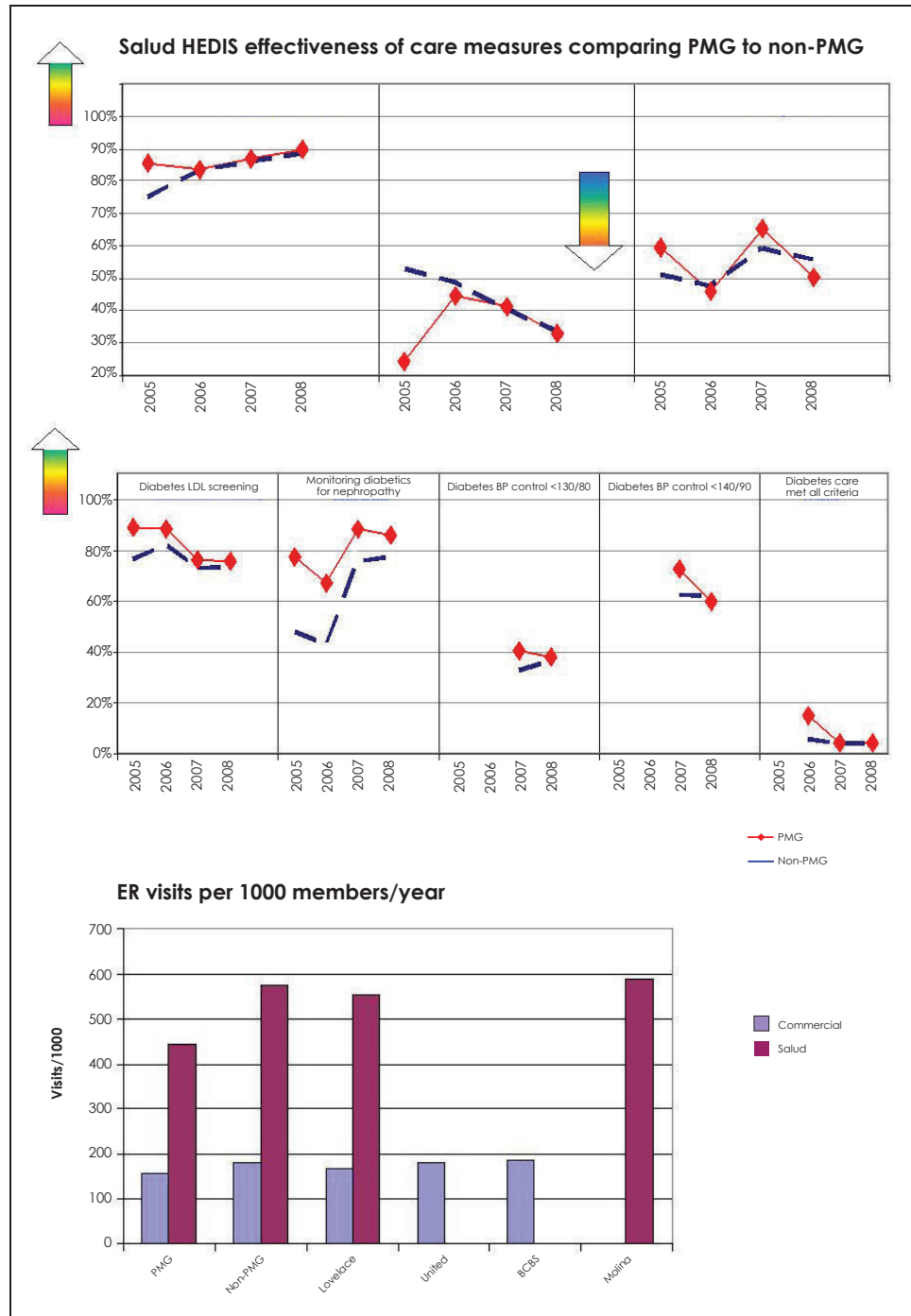patients served

Appendix B *PHS board scoreboard*

PHS Board Scoreboard
Oct-09

IMPROVE PERFORMANCE	Freq		Current actual	Current target	Variance	Yr end target (raw score)	2010 long term target Raw score and percentile	
Clinical outcomes								
Patient safety (Leapfrog) (PHS)	3	Green	797	750	47	800	900	90th %
Mortality rate (PHS) ↓	Q	Red	1.88%	1.75%	(0.13%)	1.75%	1.60%	75th %
Diabetes A!c poor control (PHS) ↓	Q	Red	25.79%	20.92%	(4.87%)	20.92%	16.27%	90th %
AMI all or none bundle (PHS)	Q	Green	97.47%	96.96%	0.51%	98.37%	99.00%	75th %
CHF all or none bundle (PHS)	Q	Yellow	88.32%	91.85%	(3.53%)	92.88%	99.00%	75th %
Pneumonia all or none bundle (PHS)	Q	Green	88.47%	86.26%	2.21%	88.57%	95.00%	75th %
SCIP all or none bundle (PHS)	Q	Green	84.59%	84.27%	0.32%	86.14%	95.00%	75th %
Measure of transformation (PHS)	H	Green	90.00%	90.00%	0.00%	90.00%	XXXX	XXXX
Customer loyalty								
Hospital inpatient satisfaction (PCNM)	Q	Green	83.70	84.30	(0.60)	84.30	85.70	75th %
Hospital IP + OP + ED + DSU satisfaction (RDS)	Q	Red	83.20	88.70	(5.50)	88.70	90.50	75th %
Patient satisfaction (PMG)	Q	Yellow	90.20	90.70	(0.50)	90.70	91.30	75th %
Member satisfaction (PHP)	Q	Green	72.90%	71.90%	1.00%	71.90%	71.90%	75th %
Time to 3rd available - PCP (PMG) ↓	H	Red	10.36	6.33	(4.03)	6.10	4.90	75th %
Time to 3rd available - all specialists (PMG) ↓	H	Green	14.85	16.40	1.55	10.40	14.00	75th %
MAINTAIN PERFORMANCE								
Financial outcomes								
Operating margin YTD (PHS)	M	Green	7.10%	4.80%	2.3%	4.50%	4.50%	Blended AA rating
Staff focus								
Employee turnover YTD annualized (PHS) ↓	M	Green	14.30%	16.10%	1.80%	15.90%	14.50%	75th % western region
Growth and mission								
Customer count (PHS)	M	Green	711,865	705,720	6,145	711,027	751,301	Growth rate > pop growth

- ▢ Data missing or unavailable
- ▢ Results outside of expected variation of process - requires action plan
- ▢ Target not achieved, but results within expected variation of process
- ▢ Target achieved

INNOSIGHT INSTITUTE

Appendix C *Cost per episode comparison (HaH vs. comparable inpatient)*

Legend: ▬ Total cost per epiode w/o MD

Chart data points (Total cost per episode w/o MD):
- October: ~$7,100
- November: ~$5,950
- December: ~$3,200
- January: ~$4,650
- February: ~$2,850
- March: ~$1,750
- April: ~$2,100
- May: ~$2,700
- June: ~$4,100
- July: ~$2,800
- August: ~$2,900
- 2009 total: $2,915

Horizontal line: $4,979

INNOSIGHT INSTITUTE
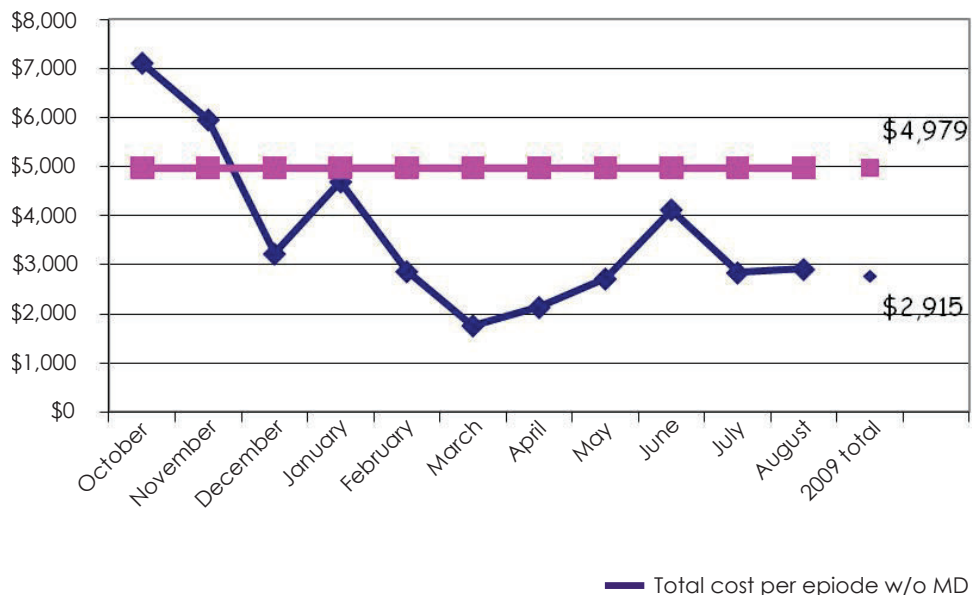
Appendix D *Outcomes, PMG vs. non-PMG providers*

Salud HEDIS effectiveness of care measures comparing PMG to non-PMG

Diabetes LDL screening | Monitoring diabetics for nephropathy | Diabetes BP control <130/80 | Diabetes BP control <140/90 | Diabetes care met all criteria

PMG
Non-PMG

ER visits per 1000 members/year

Commercial
Salud

Appendix E *PHS interviewees*

Donna Agnew, vice president and chief information officer

Dennis A. Batey, M.D., president, Presbyterian Health Plan

Charles Baumgart, M.D., vice president, chief medical officer, Presbyterian Health Plan

Paul M. Briggs, senior vice president and chief financial officer

Lauren Cates, vice president of central New Mexico operations

Lesley Cryer, R.N., executive director, Presbyterian Home Healthcare Services

Kathleen Davis, R.N., MBA, CNA-BC, senior vice president and chief nursing officer

Robert A. Garcia, vice president, regional operations

James H. Hinton, president and chief executive officer

Dale Maxwell, vice president and chief financial officer, Presbyterian Delivery System

Michael P. McGrail, M.D., MPH, senior vice president and executive medical director, Presbyterian Medical Group

Jason Mitchell, M.D., medical director, Clinical Informatics

Darcie Robran-Marquez, M.D., associate medical director, Primary Care Services

Todd Sandman, director, public, government and community relations

Peter Snow, senior vice president, Strategic Planning Services

Neal Spero, chief sales and marketing officer

Larry Stroup, chairman of the board, PHS

Mike West, administrative director for specialty care, Presbyterian Medical Group

About the case study series

Disruptive innovations in health care have the potential to decrease costs while improving both the quality and accessibility of care. This paper is part of a series of case studies that uses disruptive innovation theory to examine integrated delivery systems and aims to identify the critical factors necessary to achieve many of the desired quality, cost, and access improvements called for in current reform proposals. By providing a historical and strategic analysis of integrated fixed-fee providers, this project hopes to accelerate the adoption of disruptive innovations throughout the health care delivery system.

Acknowledgments

About Innosight Institute

Innosight Institute, founded in May 2007, is a 501(c)(3) not-for-profit think tank whose mission is to apply Harvard Business School Professor Clayton Christensen's theories of disruptive innovation to develop and promote solutions to the most vexing problems in the social sector. Innosight Institute's case studies are for illustrative purposes only and do not represent an endorsement by Innosight Institute.

About the authors

 VINEETA VIJAYARAGHAVAN is a Senior Research Fellow and Project Manager for the Healthcare Practice of Innosight Institute. She previously served as Engagement Manager at the consulting firm Katzenbach Partners, helping Fortune 500 health care clients achieve strategic, operating, and organizational improvements. She was also a Research Fellow at Harvard Business School, creating cases and conducting research focused on issues of Organizational Development. She received her M.B.A. from Harvard Business School.

 ARIANA KLITZNER is a Visiting Research Fellow for the Healthcare Practice of Innosight Institute and a Consultant at Bain & Company, Inc. Previously, she served as a Special Projects Coordinator at The Children's Clinic in Long Beach, CA, where she worked to increase health care access for underserved populations and developed a childhood obesity prevention program. Ariana received her MBA from Harvard Business School.

www.innosightinstitute.org