

Shifting the Paradigm Toward Population Health

AMGA 2012 Acclaim Award Honoree TriHealth

In September 2012, TriHealth was named an honoree for the American Medical Group Foundation's 2012 Acclaim Award for its initiative "Patient-Centered Medical Home & Clinical Data Warehouse: Shifting the Paradigm Toward Population Health." Here are some highlights of their achievements.

More than a decade after the Institute of Medicine (IOM) published *Crossing the Quality Chasm*, the six aims for improvement remain as relevant as ever. They, in conjunction with the Institute for Healthcare Improvement's Triple Aim, have inspired TriHealth to transform episodic care into population health management. Although population health management has become an industry buzzword, no blueprint existed when the transformation began five years ago. Driven by a mission to serve each and every member of the community, the organization became a regional leader in patient-centered medical home (PCMH) by building an infrastructure of technology, process, and personnel. In doing so, it identified a gaping hole in the availability of healthcare information—population statistics by demographics, health status, payor, employer, and more—and solved it by building a proprietary Clinical Data Warehouse. This tool, in conjunction with PCMH, has shifted the paradigm toward population health by arming physicians and staff with comprehensive, reliable data for the first time in history and by empowering them to truly partner with patients to achieve optimum outcomes.

TriHealth recognized that the only way to fulfill the mission to improve community health was to progress from episodic care to population management.

Population health management required a complete system redesign:

- From sampling methodology and manual chart audits to 100 percent, all-patient review (safe)
- From individual physician judgment to evidence-based medicine (effective)
- From patient as recipient to patient as participant in the care process (patient-centered)
- From retrospective to prospective (timely)
- From in-office experience to health system experience (efficient)
- From individual encounters to population management (equitable)

Like any change, TriHealth's initially faced reluctance and resistance. They mitigated that resistance by:

- Gaining the buy-in of senior leaders and the physician-led Quality Improvement Committee

- Building care coordination teams, including Medical Home Office Coordinators, who leverage the Clinical Data Warehouse to manage patient care and enable physicians to spend their time practicing medicine
- Enlisting Physician Champions, who engender support among their peers
- Forming a multidisciplinary Clinical Data Warehouse Subcommittee that meets weekly to develop and implement evidence-based protocols

Above all, TriHealth's journey demonstrates the importance of aligning to a system-wide mission and vision, educating both patients and physicians about population health management, and merging information technology with clinical best practices.

Organization Profile

TriHealth is a tax-exempt, non-profit corporation formed in 2005 as part of a comprehensive healthcare/hospital system based in Cincinnati, Ohio. It operates and manages physician practices that provide primary and specialty healthcare services and further the system's mission to improve community health.

As a testament to the organization's success, it is the largest adult primary care physician group in the region and has grown quickly to include 38 practices—with 26 of those recognized as PCMH Level III by the National Committee for Quality Assurance (NCQA)—135 adult primary care physicians, 37 pediatricians, and 67 specialists representing 12 specialties. The organization has an estimated 350,000 active patients generating almost 950,000 office visits annually.

Drivers of Change

Internally, TriHealth recognized that the only way to fulfill the mission to improve community health was to progress from episodic care to population management. The population health framework TriHealth followed spans consumer engagement, quality improvement training, health information technology, measurement and public reporting, and PCMH. The physician organization made strides in each of these facets of population management by:

- **Consumer Engagement:** Establishing an online portal that encourages patients to schedule appointments, send and receive messages, and view medical records electronically
- **Quality Improvement Training:** Integrating four separate, employed physician groups into a coordinated system with a single Quality Improvement Committee

- **Health Information Technology:** Adopting electronic medical records (EMR) across all physician practices by 2011 and returning to pre-EMR productivity within four weeks
- **Measurement and Public Reporting:** Building the Clinical Data Warehouse, a system to automatically collect, report, and share patient data across practices
- **PCMH:** Obtaining PCMH Level III recognition by the NCQA for 26 practices by 2011, becoming first in the state to receive PCMH recognition, and serving as a regional expert on the topic

Although the adoption of an EMR system facilitated storage of patient records, it exposed an Achilles' heel: the inability to target and mine segments of the population. That information gap drove the organization to develop a robust Clinical Data Warehouse, a cutting-edge technology unavailable in the health care market. The warehouse, designed and implemented by the Information Systems department using data integration and business intelligence tools, is an automated system for collecting and reporting patient data (Figure 1). It provides the basis for managing population health and measuring the health status of the people served. Each group, site, and primary care physician can use the tool to track their patients' control measures and share data across practices.

Externally, the Patient Protection and Affordable Care Act (PPACA) solidified what TriHealth already knew and had experienced in the market: episodic care and fee-for-service reimbursement are unsustainable. Driven by a mission and a vision, the physician organization pursued population health management and pay for performance to align incentives and deliver value (quality/cost). In this climate of change, health systems nationwide began employing more primary care physicians. Their early efforts to employ and organize a large primary care base positioned us well to minimize invasive and costly inpatient care through preventative primary care.

Tough Decisions

Although TriHealth received a \$6 million, two-year grant for the PCMH and Clinical Data Warehouse initiative, financial pressure remained. Instead of the pressure of raising capital, they faced clinicians' fears that once the money ran out, so would the initiative. This reluctance to change slowed efforts, but became less paralyzing when physicians realized that they were rearranging staff rather than adding costs and that popula-

tion health management was a long-term, system-level strategy, not a flash in the pan (see Figure 2).

1. TriHealth embarked on the journey to adapt PCMH as the model for care without sustainable funding in place. Although many physicians were eager to pursue the PCMH model, they could not move forward without investment dollars for the practices. The organization addressed this challenge by obtaining funding from two sources: managed care contracts and a sponsor's two-year grant. While grateful for the opportunity to bring PCMH to life, they understood the abbreviated shelf life of these funds and sought additional investors.

In 2012, the city was selected by the Center for Medicare & Medicaid Innovation (CMMI) as one of seven Comprehensive Primary Care (CPC) initiative communities. TriHealth's PCMH sites are expected to comprise a significant portion of the 75 primary care sites that will participate in this pilot. CPC will enable us to further develop an integrated delivery system of PCMHs, specialists, hospitals, and allied providers. CPC will also answer the call for investors by providing four years of funding.

2. Corporate policy is to buy, rather than build, IT applications. When TriHealth could not find a suitable data warehouse product on the market, they decided to invest in building their own. The parent health system funded the proof of concept, and a sponsor funded the effort to build a system for widespread use.
3. The redesign required personnel to be added, rearranged, and in rare cases, dismissed. Despite the best efforts to retain all staff members, TriHealth made the tough decision to replace leaders who did not fit with the organization's mission, vision, strategy, and quality improvement program. These sacrifices allowed us to maintain the program's integrity and achieve their goals.
4. Requiring all primary care physicians to adopt PCMH and publicly report their data meant changing the culture. Initially, physicians viewed the Clinical Data Warehouse dashboards and reports with skepticism. Accustomed to questioning the validity of small manual audits of about 20 charts, they were unconvinced of the warehouse's accuracy. TriHealth addressed these



TriHealth team accepting an honoree AMGA Acclaim Award (left to right): William F. Groneman, M.H.A., Executive Vice President System Development; Lorraine Stephens, M.D., Chair, Quality Committee, TriHealth Physician Enterprise Corporation, and Program Director, Bethesda Family Practice Residency; Mufaddal Frosh, Clinical Data Warehouse Programmer/Analyst Lead; Vesta Johns, Chief Operating Officer, TriHealth Physician Practices, Administrative Chair of TPEC Quality Committee; and Timothy Gramann, Chief Operating Officer, Group Health

concerns by showing physicians the raw data in the EMR, relying on Physician EMR Technical Leaders for support, and gaining trust by quickly rectifying pathway errors.

5. Finally, prioritizing certain protocols and features of the Clinical Data Warehouse meant deprioritizing others. TriHealth took a systematic approach by obtaining the frequency or incidence of clinical conditions from various sources and ranking them accordingly.

Challenges

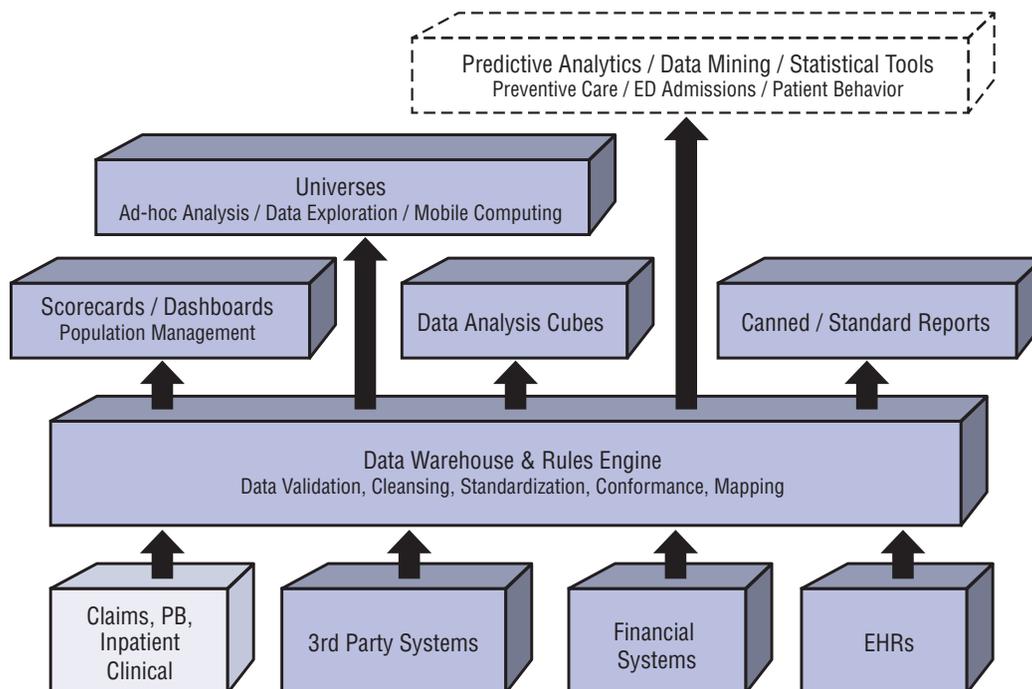
Without question, organizational change posed the greatest challenge. TriHealth needed clinicians and staff to truly grasp the mission of population health management and understand that change can mean *more meaningful work* as opposed to just *more work*. Physicians had learned from past experiences to perceive change as negative, and couldn't be blamed. Historically, change meant additional work, but this time, it meant they would be doing the right kind of work: work inside of the exam room. The PCMH model included a care team of ancillary providers—Medical Assistants, Medical Home Office Coordinators, Nurse Practitioners, Registered

Nurses, Registered Dietitians, and more—to support physicians.

For both physicians and staff, PCMH is a cultural shift that affects up to 80 percent of all patient visits. Physicians must transition from treating illness to prescribing wellness even during an acute sick visit. Staff must transition from simply noting the acute reason for a visit to setting up all chronic and well protocols before the physician enters the exam room. To arm physician leaders with necessary change management skills, TriHealth provided 10 educational opportunities, including professionally led sessions on leading change and dealing with difficult personalities. Once they brought physician leaders on board and demonstrated the power of the Clinical Data Warehouse, the redesign gained momentum.

One physician's experience says it all. Recently, he received a message from a patient via the online patient portal. In it, the patient apologized for her long-time failure to take prescribed medication. The physician responded without hesitation, "Don't apologize to me. I failed to truly educate you about the importance of taking that medicine." Cultural shifts, albeit the most difficult to manage, are also the most rewarding.

FIGURE 1
Clinical Data Warehouse Building Blocks



Outcomes

In 2009, the Clinical Data Warehouse collected baseline data for diabetes mellitus. Based on the NCQA’s Diabetes Physician Recognition Program (DPRP), the total points increased from 73 in 2009 to 85 in 2010 to 100 in 2011. Over the course of two years, TriHealth transitioned from below PCMH recognition level for diabetes care to above average on poor control, superior control, and process measures. For example, diabetic patients with ophthalmological exams on record increased by nearly 21 percent between 2009 and 2011—a feat only possible with the introduction of the Clinical Data Warehouse, which exposed clinicians and the Quality Improvement Committee to novel patient information.

In addition, the physician organization publicly reports scores for the D5, a composite measure of diabetes care based on:

- HbA1c < 8.0
- Blood Pressure < 140/90
- LDL < 100
- Tobacco free
- Daily aspirin use for patients with known cardiovascular disease

In CY 2011, TriHealth surpassed the D5 community average (28 percent) by nearly 10 percent (Figure 3). Those results indicate that they are more effectively managing their diabetic population and reducing patients’ risk of heart attack, blood vessel damage, and cardiovascular disease.

Heart/stroke and colon cancer screening patients have also benefited from the Clinical Data Warehouse’s implementation. The percent of patients with poor blood pressure and low-density lipoprotein control decreased from 2010 to 2011. Patients receiving colon cancer screenings increased from 62.6 percent to 66.74 percent between 2010 and 2011. TriHealth has already exceeded the community average of 58.6 percent and the city’s CY 2013 target of 65 percent.

As for the qualitative success of their redesign, one physician explained, “Population health management and the Clinical Data Warehouse have made me a better doctor.” A staff member noted, “The Clinical Data Warehouse has enabled us to track their patients’ health more consistently and effectively.”

The ultimate testament of patient-centeredness should be patient engagement, access, and satisfaction. The organization measures engagement and access by the number of patients who register and use the online patient portal. Metrics include the number of patients with active accounts, as well as the number of communications, e-mails, and online visits via the portal.

FIGURE 2

Cultural Implementation of Population Management

- **Step 1:** Create the Vision (approved in 2007).
- **Step 2:** Create a Quality Team Led by Physicians to Create Protocols of Care for Well and Chronic Populations.

PROTOCOL DEVELOPMENT

- DM
- ↑ Hypertension
- ↑ Hyperlipidemia
- ADHD (Child)
- Immunization (Child)
- Well Female
- Well Male
- Obesity (Child)
- Asthma (Child)
- CHF (System-Wide)
- Prostate Screening
- Health / Stroke Risk
- Colonoscopy Screening

HOW TO BUILD A PROTOCOL, DETERMINE DIAGNOSIS FREQUENCY IN MARKET

- Resident Researches Best Practice
- Attending Sponsor Formats the Protocol for Presentation to the QI Committee
- QI Committee Approves Protocols
- EMR Optimization Committee Creates Workflow in Epic
- Train Physicians, MAs, and Other Ancillary Staff

- **Step 3:** Incorporate the Desired Behaviors and Outcomes into All Job Descriptions and Educate All Involved.

PHYSICIANS

- Patient Letters
- Patient Engagement Sheets
- Annual Physical Population Scorecard
- Laminates of Quality Measures

STAFF

- MA – Protocol Savvy
- Front Office – Education Needs Vary
- Medical Home Coordinator – Process to Work Clinical Data Warehouse

PATIENTS

- Letters Announcing Protocols
- Move to PCMH
- Partnering / Accountability
- Compliance to Protocols

- **Step 4:** Analyze Quality and Cost. Set targets for Both.

QUALITY

- Medical Home Pilots – Multi-Payer
- Baseline PMPM & Quality
- Plan to Improve Process Changes Office
- Set Measures, Need Employers to Buy In to Incentives

COST

- Measures Of Outcomes / Cost: PMPM Meds, OV, ED, Diagnostics, Inpatient, LOS, & Costs
- Reduce Redundancies of Labs and Diagnostics Between PCP and Specialists
- Compliance of MDs with Protocols and Patients to Protocols

- **Step 5:** Gain NCQA PCMH Recognition.
- **Step 6:** Maximize Technology and Physicians Driving Health Via Desktop Clinical Dashboard.
- **Step 7:** Develop One System to Pull Quality and Cost Data — Long-Term Epic Solution by 2014.

FIGURE 3

D5 Performance CY 2011

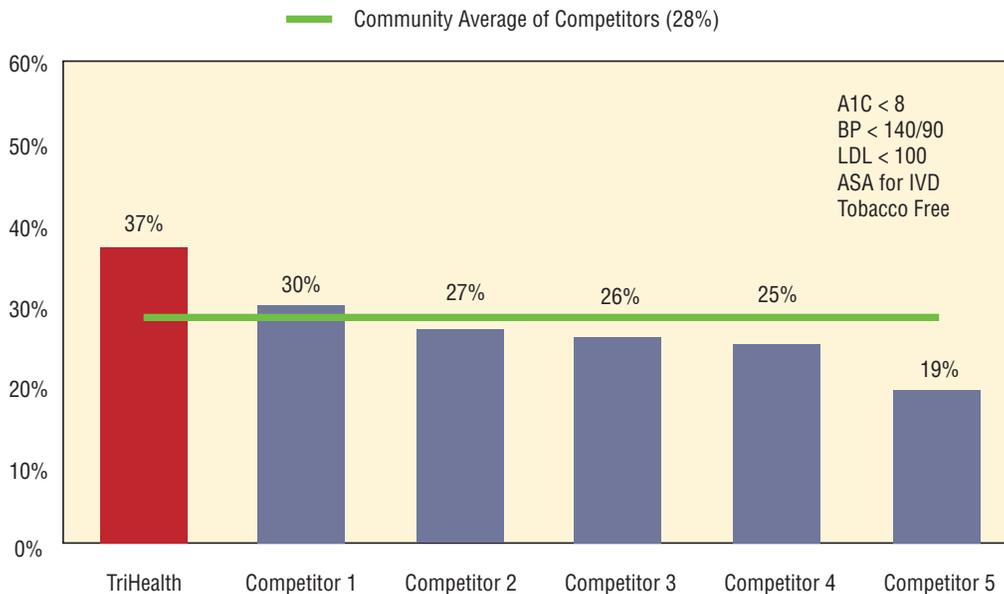
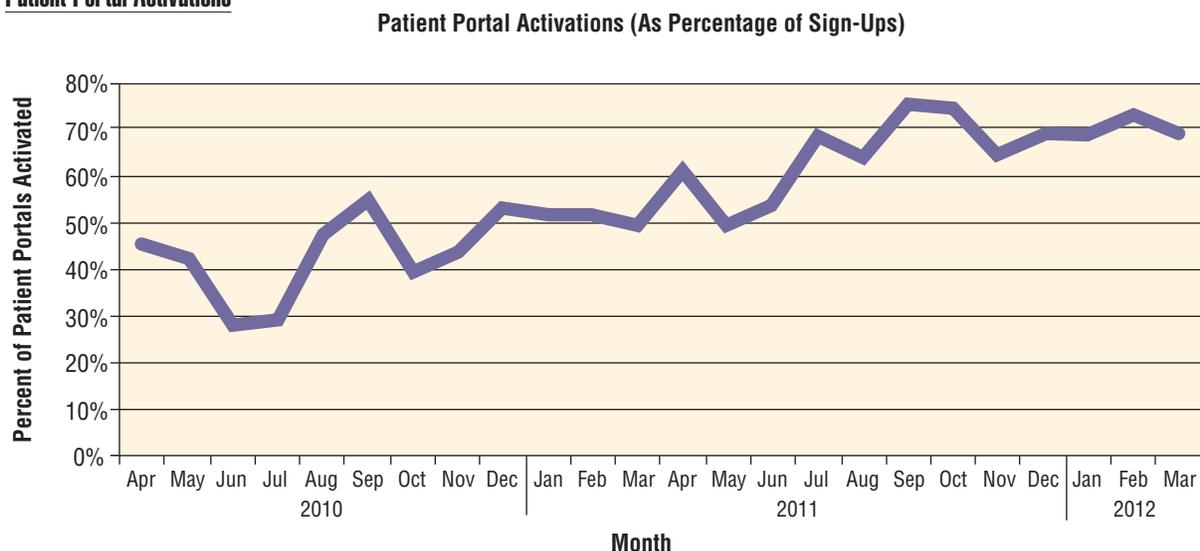


FIGURE 4
Patient Portal Activations



Since its introduction two years ago, the patient portal has seen more than 92,000 sign-ups and nearly 45,000 unique activations. The percent of patients who activate their accounts after signing up has steadily increased over the past two years from 30-50 percent to about 70 percent (Figure 4). This year, TriHealth will roll out a program to manage and improve patient satisfaction scores and redefine access. Upon implementation of the 24/7 patient portal, TriHealth discovered that industry surveys and questionnaires only ask patients about their satisfaction with office hours. This inquiry fails to capture the evolving definition of access, which extends far beyond the physician office. Thus, TriHealth will advocate for changing access metrics nationally.

Lessons Learned

- Start with a compelling vision that physicians understand and embrace.
- Focus on the patient.
- Negative feedback means that you are not communicating clearly, not that your idea is wrong.
- Physician leadership is not an option; it is essential to manage change.
- Gain the support of system and board leadership early in the process.
- Foster teamwork among the leadership team. Moral support plays a critical role in managing difficult change.
- Identify senior leaders who will sell the idea and ask for investment dollars.
- Provide the resources necessary to foster change: IT, funding for office staff, and process improvement consultation.
- Rearrange (rather than add) staff to meet shifting resource needs.
- Reinforce positive change with compensation rewards.
- Plan for scale by developing a model practice approach for PCMH.
- Maximize documentation in discreet fields, and make it easy for physicians to learn one way to document (limit their options).
- Find technologically savvy physicians, and encourage them to work with IT staff to reconfigure daily work screens.
- Align staff members' goals and work duties, and evaluate everyone on the same measures.
- Make data available at physicians' fingertips. It is a powerful motivator and inspires friendly competition.
- Build multi-disease and well screens for each physician. Personalize his/her practice.
- If you train residents in population management and PCMH, you will retain them.

Adapted from the 2012 Acclaim Award Application of TriHealth submitted by William F. Groneman, M.H.A., executive vice president of system development.