The transition to value-based payment is beginning to transform health care delivery. Moving from volume to value and from process to outcomes requires proactive patient and population management informed by robust knowledge of patients' clinical and financial risk profiles. As Mayo Clinic Health System is demonstrating, “big data” analytics and a well-governed process for continuous improvement are essential ingredients for transformation.

**System-wide and local needs**

Mayo Clinic Health System (MCHS) comprises clinics and hospitals providing primary and specialty care in 75 communities throughout Minnesota, Iowa and Wisconsin. Part of the well-known Mayo Clinic, MCHS is the largest primary care network in the Midwest, bringing Mayo’s knowledge, expertise and culture of teamwork to patients in their communities.

MCHS is committed to effective population health management and is preparing for the expansion of value-based contracting. Its leaders understood the need to augment their patient information from the transactional view of EMRs (electronic medical records) to a robust population analytics view. For this, the MCHS team chose Optum One’s cloud-based analytics solution to leverage both clinical and claims data to analyze their population, evaluate case and practice management initiatives, and measure outcomes and costs over time for individual patients and patient populations.
Optum One’s Population Analytics module aggregates and normalizes EMR, practice management and claims data for analysis. The Population Analytics database, intuitive analytics, and libraries of standard and custom reports are utilized by MCHS via secure web for its users to build clinically relevant longitudinal, predictive and comparative analysis.

MCHS’s approach to leveraging these analytics provides a valuable roadmap for how the right data — used effectively — can help their organization prepare to assume financial risk and responsibility, and succeed in managing population health.

Starting with sound data management and clean data
Like most health care organizations, MCHS identified attribution of patients to their primary care physicians (PCPs) as critical data for case management, provider panel analysis and development of a risk-based compensation plan. MCHS also knew that attribution was a chronic data issue that would need to be resolved for population management and payment reform to be supported by providers.

MCHS used Optum attribution reports to identify attribution data quality issues. These include examples common to most provider EMR data, such as patients whose EMR-assigned PCPs differ from the provider they’d seen most frequently in the last year, patients who had “junk” values in the EMR PCP field, and patients who were frequenting MCHS emergency departments but had no MCHS PCP identified.

In order to create a single “source of truth” for attribution data, MCHS launched an initiative to standardize registration processes and work with PCPs to review current panel lists, with the goal of establishing a clean EMR-based attribution model within 12 months. Making this a system-wide priority, MCHS is ensuring the accuracy of data critical to sound planning and decision-making, and has seen a 40+ percent improvement in correct patient attribution in the first six months.

Doing what’s right, right now
Proactive chronic disease management is another prerequisite for effective population health management and successful risk-based contracting. According to MCHS leadership, it is also the right way to care for patients regardless of the incentives. In this spirit, MCHS’s population health analytics governance committee is piloting Optum One’s predictive modeling to drive proactive patient outreach.

Optum’s heart failure predictive model brings together in-depth clinical, diagnostic and demographic data to identify patients at highest risk for admission within the next six months. Optum One users in each region review and export lists of these patients for outreach and coordination. Each region can then use Optum One Population Analytics to track the impact of this work by comparing benchmark hospitalization rates for the heart failure population to the true outcomes for the coordinated population.

This centralized approach to reporting coupled with a decentralized approach to patient engagement is a deliberate approach being taken by the committee to build trust in the data, support skill building across the system and generate extensible models for successful intervention.

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**Mayo Clinic Health System:**
- 1,000+ provider system organized into 4 regions in Minnesota, Wisconsin and Iowa
- Over a half-million patients in 75 communities

**Challenges:**
- Provide a fully integrated view of patient and population management opportunities across multiple data sources
- Build trust and know-how to utilize and leverage data
- Balance the need for standard data analytics platform supporting system and local goals

**Solution:**
- Optum Population Analytics launched in October 2012
- Initiated clinical analytics supporting system-wide needs and regional priorities
- Formalized explicit data governance practices

**Results:**
- Standardized guidelines for PCP attribution
- 40%+ improvement in correct patient attribution
- Care management informed by predictive analytics
- Early lessons in risk-adjusted contracting
- Understanding of and appreciation for missed coding opportunities
- Familiarity with and trust in data
Preparing for risk

The final piece of successfully preparing for risk is being able to meet the payers as equals in contract negotiations. Historically, providers have been at a disadvantage in payer negotiations because they have not had access to data about their populations. Now MCHS is prepared to come to the table for these discussions armed with a strong understanding of the patient populations it serves and its performance compared to that of well-regarded peer organizations across the country.

MCHS has been using its Optum One Population Analytics database to track health plan metrics without having to rely solely on the data flowing to the plans. Furthermore, while the payers are limited by data harvested from claims, MCHS can demonstrate performance on more clinically relevant metrics like BMI and HbA1c values. Having ready access to their normalized clinical and billing data through Optum One means MCHS can proactively plan for future payer discussions and make informed contracting decisions as they move into risk-based arrangements.

“Mayo is well known for advancing clinical knowledge through research. Analytics reinforces the importance of a data-driven culture with front-line clinicians. This requires a standardized clinical database, a common analytic platform and new organizational learning. Optum is supporting our transformational journey.”

— Kari Bunkers, MD
Chief Medical Information Officer
Mayo Clinic Health System

“Quality improvement is in our DNA, but data-informed approaches need to infuse all levels of the health system. Trusted data is the lifeblood of this change. A culture of analytics does not just happen. It gets nurtured and built one breakthrough at a time.”

— Alan Krumholz, MD,
Medical Director for Quality Outcomes,
Mayo Clinic Health System
Setting the standard for value

MCHS has three overarching goals for analytics that align with organizational performance goals: proactive population management, sound practice design and smart contracting. Getting these right requires trusted data and robust analytics. It requires investment in building a culture of analytics through training for those who use data to improve decision-making. It requires governance mechanisms to ensure that priorities are aligned with capabilities and that data are used properly.

MCHS is committed to improving health across the communities it serves. Optum’s “big data” analytics and comparative data in combination with MCHS’s well-governed processes for continuous improvement are the essential combination for transformation.

About Mayo Clinic Health System

Mayo Clinic Health System is a group of clinics, hospitals and health care facilities that provide primary and specialty care close to home for more than 500,000 people each year in more than 75 communities across Iowa, Minnesota and Wisconsin. Its locations range from large regional medical centers with hospitals to rural primary care clinics. Primary care clinics throughout southern Minnesota and Wisconsin are participating in the projects described in this case study.

About Optum

Optum is a leading health services and innovation company dedicated to helping make the health system work better for everyone. With more than 85,000 people collaborating worldwide, Optum combines technology, data and expertise to improve the delivery, quality and efficiency of health care. Optum is part of the UnitedHealth Group (NYSE:UNH).