Population Health Management Platform Improves Diabetic Outcomes by More Effectively Engaging Patients

North Mississippi Medical Center (NMMC) knows its way around quality of care. The non-profit, community-owned 650-bed facility in Tupelo, Miss. is the 2012 recipient of the prestigious Malcolm Baldrige National Quality Award. So it’s no surprise that NMMC is ahead of the curve when it comes to adjusting to the shift from fee-for-service to value-based care. Yet, like virtually every other provider organization in the country, NMMC is challenged with what is perhaps the most critical ingredient in the value-based recipe—patient engagement.

Engaging patients in their own care has always been a challenge. Healthcare professionals can recommend a treatment regimen but if the patient isn’t committed to following it, steps are likely to be missed. Studies demonstrate that patient engagement is essential to improving health outcomes, and that lack of engagement contributes to preventable deaths. In fact, it is estimated that 40 percent of deaths in the U.S. are caused by modifiable behavioral issues, such as smoking and obesity. Yet, on average, people with chronic diseases take only 50 percent of the prescribed doses of medications. Half of all patients do not follow referral advice, and 75 percent don’t keep their follow-up appointments.

Those statistics are even worse in Mississippi. According to the Mississippi State Department of Health, cardiovascular disease (CVD), the most dangerous chronic condition, is the leading cause of death in Mississippi. The state’s CVD mortality is the highest in the nation, 29 percent higher than the U.S. as a whole. Tragically, more Mississippians die each year from CVD than from all types of cancer, traffic injuries, suicides, and AIDS combined. The numbers are equally depressing for diabetes, stroke and other preventable conditions.

North Mississippi was committed to improving those numbers. As the flagship hospital of North Mississippi Health Services, NMMC is the largest non-metropolitan hospital in the nation, serving residents from more than 24 counties in northern Mississippi and northwest Alabama. The medical center’s physician clinic system, North Mississippi Medical Clinics, Inc (NMMCI), is

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part of a regional network of 38 primary and specialty clinics. In 2012, the clinic system decided to initiate contact with patients prior to office visits, and to encourage them to engage in their own healthcare during and between visits.

The Challenge

Healthcare has traditionally been a reactive industry focused primarily on managing acute events. The shift to value-based care requires providers to be more proactive, especially by encouraging patients with chronic or preventable conditions to become more involved with managing their own care.

Providers need to maximize the effectiveness of time spent with patients by reviewing factors such as test results with them and explaining how modifying their behaviors can improve their health. Unfortunately, they often lack the population health management (PHM) tools they need to perform these actions.

A true PHM initiative aggregates and analyzes data from multiple applications, including clinical data from Electronic Health Records (EHRs) and claims data from Practice Management systems and outside sources to capture a full view of the population. The process needs to match data from these sources with evidence-based chronic and preventive care protocols to identify patients due for service and notify them to make an appointment, while also tracking patient compliance with treatment and measuring quality and financial results.

It's a tall order. While some organizations have tried to get their EHR systems to do all of this for them, EHRs are primarily data repositories; they're not designed to perform the full spectrum of activity required for successful population health management. Like many large health systems, NMMCI had invested in a state-of-the-art EHR that digitized records across its network. Yet its providers still felt held back by a lack of automated tools that would make true population health management practical.

"Ideally, we want to review the records of all our patients with chronic or preventable conditions before they come in, to see how they're doing on their home care programs, and to see what tests they'll need or which ones they may have missed," explains Dr. Brad Crosswhite, MD, FAAFP, a family physician at NMMCI's Barnes Crossing Medical Clinic. "If we can schedule tests prior to their next appointment, the results will be available so the physician or healthcare manager can discuss them with the patient during their visit. The reality, however, is it is nearly impossible to review so many records manually."

This challenge was exacerbated by the limitations of the existing patient registry, which NMMCI has used for many years.

"The primary view our registry provided was of patients a physician had seen over the last 30 days," says Connie Renfroe, RN, Best Practice and Innovations Manager at NMMCI. "That allowed us to put point of care processes in place. However, we wanted to put processes in place to identify patients due for an office visit. That was a piece of population health management that we were missing. We needed to gain a broader view over time to spot trends and identify the patients whose at-home behaviors and/or long-term conditions required the most attention."

Committed to delivering better patient outcomes, NMMCI wanted to implement technology that would automate the review process, making it easier for the staff to identify individual patient needs, and assist in the creation of a thorough, proactive patient communication campaign.

The Solution

NMMCI implemented the Phytel population health management platform, a robust suite of scalable, Web-based tools and services designed to help healthcare organizations deliver timely, coordinated care for their patients. The Phytel platform enables providers to manage quality more effectively in order to proactively improve chronic and preventive care across a population.

Barnes Crossing Medical Clinic initiated a population health project aimed at improving the outcomes for 76 patients with diabetes who had poor hemoglobin A1c control, defined as A1c levels of 9 or higher. The initial goal was to use the Phytel platform to identify the highest-risk patients, and engage them prior to an office visit with a robust care management program.

"It starts with pre-visit planning," says Dr. Crosswhite. "Nurses can use the Phytel platform to generate a work list of patients by provider that shows all preventive services, wellness services and labs required based on the specific
diagnoses for patients who are coming in for appointments in the next two days to two weeks. We developed standing order sets based on gender, problems, preventive care recommendations and followed evidenced-based standards of care.

Once the nurses had the work list, they called patients and encouraged them to get their labs done prior to their visit. (Using Phytel’s micro-campaign capabilities, NMMCI could have launched an automated email campaign to communicate with patients identified as high-risk by the system. In this instance, however, most of the contact was made by phone since NMMCI realized it only had email addresses for 40 percent of its diabetes patients). Special emphasis was placed on communicating with high-risk patients with A1c levels above 9, which the Phytel platform made easier to identify.

“We may have had 70 patients with diabetes coming in the next week, most of whose scores were fine,” says Renfroe. “If we had to review all 70 records manually to find the two or three high-risk patients it would require a lot of time. With Phytel we can spend less time reviewing the data and more time doing something about what the data is telling us. It’s a whole new ball game. We have been able to gain efficiency by leveraging technology.”

The Phytel platform automatically alerted nurses as to which uncontrolled diabetics were coming in that week so they or the population health managers could plan to spend time with those patients after their office visit to provide them with counseling and a diabetes toolkit.

“They talk about diet, portion control, exercise, medication adherence, and give the patients a Self Management Action Plan,” says Dr. Crosswhite. “We use the Phytel platform to help us monitor these high-risk patients every week and see how many fall off our list. Initially we found most hadn’t even seen us in more than six months, so this program gives us a way to pull them back in to be engaged in their care.”

As the program has progressed, NMMCI has been able to use the Phytel platform to automate the workflows so the entire process is standardized. This standardization makes it easier to ensure all steps have been followed and no patients “slip through the cracks,” as Renfroe says.

Included in the process is a service initiative. Phytel Coordinate campaigns are sent to patients who have been seen at NMMCI during the previous week to assess their satisfaction with the experience. The campaign is also used to thank them for the visit, and reinforce that if they have any questions about their plan of care they should call back, which helps build a stronger patient/provider relationship.

The Results

The use of the Phytel platform for PHM among high-risk diabetics at NMMCI has produced significant improvements in diabetes management. Of the 76 patients who had hemoglobin A1c levels greater than 9, 31 (41 percent) are now below 9.

For the 45 patients who are still considered at-risk, 39 (nearly 87 percent) have now received specific education on how to manage their diabetes more effectively. While taking advantage of that information is still ultimately up to the patients, NMMCI feels they’ve made a real difference in patients’ understanding of what they need to do, which may result in further gains as time goes on.

Individual outcomes from the enhanced patient engagement have also been impressive. For example, over a period of three months one at-risk patient’s A1c level dropped from 11.4 to 8.6. That patient also lost 50 lbs. after participating in four face-to-face meetings. Another, who had just one face-to-face meeting, lost 10 lbs. and reduced his A1c level from 10.2 to 8.4. A third lost 41 lbs. in less than a year, and two others quit smoking. Many of those results were achieved by leveraging technology, allowing care managers to work with patients more effectively.

“My team and I have been impressed with how Phytel processes and merges the data from the EHR and practice management systems,” Renfroe says. “It has given us information we wouldn’t have known otherwise. Even little things, like the percentage of phone numbers that don’t match across the two systems, are important to us as we try to increase the level of patient engagement.”

NMMCI is using the Phytel platform to assist with remote monitoring as well. Bluetooth glucometers, blood pressure monitoring and electronic scales provide biometric data between patient visits, which allows staff to identify patients who are not adhering to care plans or who are not at goal.
“When we started using remote monitoring, I went straight to Phytel to see who should be using the equipment,” Renfroe says. “I was able to drill down to the high-risk patients in minutes – something that would’ve taken much longer otherwise. It makes a great starting point for all sorts of information-gathering, which we have done to initiate many performance improvement projects targeted at improving patient outcomes.”

While a few patients have declined to be contacted about making appointments or overdue services through Phytel outreach tools, the overall reaction has been positive.

“Patients come back and tell us how much they appreciate us reaching out to them to become involved in their own healthcare and thank us for the extra time we’ve spent with them,” says Dr. Crosswhite. “They also appreciate our saying thank you for using our services and checking back on their experience. They feel a much greater connection to us.”

Maybe one of the biggest impacts Phytel has made has been with the physicians themselves. In the past, physicians would question data showing the population wasn’t at goal, suggesting that staff didn’t have their filters set correctly. When the data comes from Phytel, however, the physicians are willing to accept it at face value.

Both Renfroe and Dr. Crosswhite feel one of the big keys to success is the support NMMC has received from Phytel. Rather than simply selling a product, they say Phytel delivered a total solution.

“Phytel helped us with the implementation, and then provided on-site training to get us using the platform quickly,” Renfroe says. “They helped us get our staff engaged and supportive, which I don’t think would’ve happened had it just been left to web-based training. We also have weekly status calls with our implementation manager, which I didn’t think we’d need at first. Now I’m thankful we do them. It’s been a very positive experience for us.”

The next step, according to Dr. Crosswhite, is to begin using the Phytel platform for various PHM initiatives across all North MS Medical Clinics.

“We’ve already been using Phytel to remind patients to come in for preventative services such as mammograms, pap smears, colonoscopies, etc.” he says. “Our latest is a patient communication campaign to encourage patients to receive their flu vaccine. We’re also rolling out a campaign to send post-visit thank you emails for all physicians whose Press Ganey ratings are below 75%. The more we can engage our patients in a meaningful way, the better value we’ll be able to provide. Phytel will be an important part of making that future a reality.”

Adds Renfroe, “Patient engagement is the future of healthcare and the only way you can do that is with a solution like Phytel that automates it and helps you identify patients that are not at goal between their visits, and then automates reaching out to them. That’s critical if you want to really drive health outcomes and improve the customer experience.”

Solution: Phytel population health management platform

**PRODUCT DISTINCTIONS**

- Web-based products require no technical expertise or extra equipment
- Implementation carries light footprint with all heavy lifting of data integration from source systems completed by Phytel
- Specialty-specific, nationally recognized protocols are customizable
- Registry seamlessly integrates with EMR, lab, imaging and PM systems
- Automated patient messaging can be repeated at preset intervals

**BENEFITS**

- Increase in patients receiving preventive and indicated care
- 76 patients were identified with poor A1c levels greater and targeted in communication campaign
- Significant improvement in diabetic patients below 9 A1c levels
- 87% of at-risk diabetic patients received specific education