
2016

**GlobalHealth's Comprehensive
10% MLR Reduction Program
Lowering Costs and
Improving Member Care**

Developed in
partnership with

VITREOS™
HEALTH



GlobalHealth

PERCENTAGE OF HOSPITAL
ADMISSIONS THAT CAN BE
PREDICTED BY GLOBALHEALTH:

70%

EMERGENCY ROOM ENCOUNTERS
& EMERGENT HOSPITAL
ADMISSIONS **REDUCED BY:**

18%

NUMBER OF RE-ADMISSIONS
REDUCED BY:

22%

PER-MEMBER, PER-MONTH
MEDICAL COSTS **REDUCED BY:**

16%

Sometimes a single tragedy can spark a massive change

In 2013, staff members and executives of GlobalHealth, an Oklahoma-based health maintenance organization (HMO) were in a meeting where they began to discuss a member who suffered a recent diabetic coma.

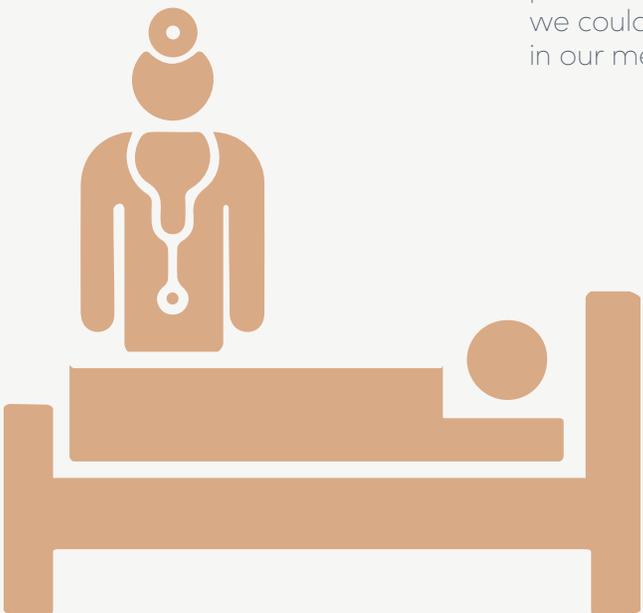
“We were talking about the case, and we started wondering what we could have done to prevent it,” said David Thompson, chief operating officer of GlobalHealth. “Everyone started working backward to piece together the patterns in this case. We realized that if we had all of this data in one central, manageable place, we likely could have made a difference in this member’s outcome. That was the light bulb moment for us when we decided to become relentless in searching for an analytics engine that could help predict these types of events so we could make a bigger impact in our members’ lives.”

Since 2014, GlobalHealth has utilized predictive and prescriptive analytics as the basis for a proactive outreach program. The outreach program was established to find those members whose health was most likely to change for the worse in the next 12 months and prevent catastrophic health events.

Today, GlobalHealth can successfully predict nearly 70 percent of its hospital admissions. The successes of the program don’t stop there.

“We have experienced an 18 percent reduction in emergency room encounters and emergent hospital admissions for the target population,” said Thompson. “For that same population we have also seen a 22 percent reduction in re-admissions. Our per-member, per-month (PMPM) reduction in medical costs is about 6 to 8 percent, that’s spread across all members. Then if you just look at the members we target and engage, that reduction is even higher.”

This case study examines the circumstances around GlobalHealth’s decision to start a proactive outreach program, how the program has evolved since its inception, and the current and future plans for the company.



GlobalHealth

is an HMO offering Medicare Advantage plans for seniors and retired government employees. GlobalHealth also covers a large percentage of Oklahoma's state and federal government employees, including educators.



FIGURE 1

GlobalHealth Population Health Platform

GlobalHealth Outreach

Role-Specific Insights Applications



Disease Manager



Care Manager



Pharmacy Manager



Physician



Behavioral Manager



Plan Manager

Population Health Predictive Analyzer

An advanced population health analytics platform that leverages the data sources including Electronic Health Records, claims, Health Risk Assessments, socioeconomic and well-being data for predictive risk and prescriptive care management.



Insights As-a-Service

A unique delivery model for advanced population health predictive and prescriptive analytics that minimizes the investment in accessing big data for healthcare organizations.

OKLAHOMA



SMOKERS

24% OKLAHOMA¹
19% National Average



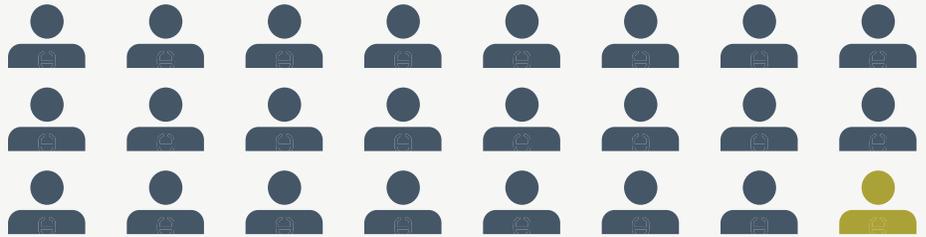
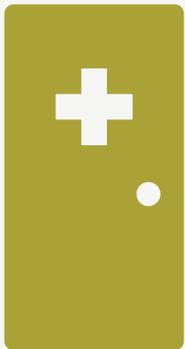
OBESITY

33% OKLAHOMA²
6th Highest in the Nation



MENTAL HEALTH ISSUES

22% OKLAHOMA³
18% National Average



OKLAHOMA ALSO RANKS NEAR THE BOTTOM IN REGARD TO THE PUBLIC'S ACCESS TO HEALTHCARE ⁴

Oklahoma is a state with some significant health concerns. It is consistently ranked near the bottom of the 50 states based on the healthiness of its population. This is due, in part, to the lifestyles and behaviors of Oklahomans that put them at higher risk for poor health, including chronic diseases and disabilities.

Of the adult population, 23.7 percent are smokers (the national average is 19 percent).¹ Oklahoma's adult obesity rate is 33 percent, which is the sixth highest rate in the nation.² Nearly 22 percent (21.9 percent) of adult Oklahomans reported having a mental health issue and 9.9

percent experienced a substance abuse issue.³

Oklahoma also ranks near the bottom in regard to the public's access to healthcare.

"Oklahoma, like many states, faces a challenge caring for those consumers living in rural areas who often have limited healthcare options," said John Wiscaver, chief strategy officer of GlobalHealth. "This can create care gaps for Oklahoma healthcare consumers."

GlobalHealth was founded in 2003 by a group of physicians who felt the HMO model provided the best opportunity to deliver high quality,

member-focused care with a low monthly cost. From its inception, GlobalHealth had a focus on membership outreach.

"The care management department was really good at putting out fires, such as managing a member that was in the emergency room or in the hospital," said Becky Anderson, executive director of care management of GlobalHealth. "We really did a good job with discharge planning and preventing re-admissions. What we wanted to do was get ahead of these members and help them prevent a catastrophic health event from occurring."

Identifying the Opportunities:

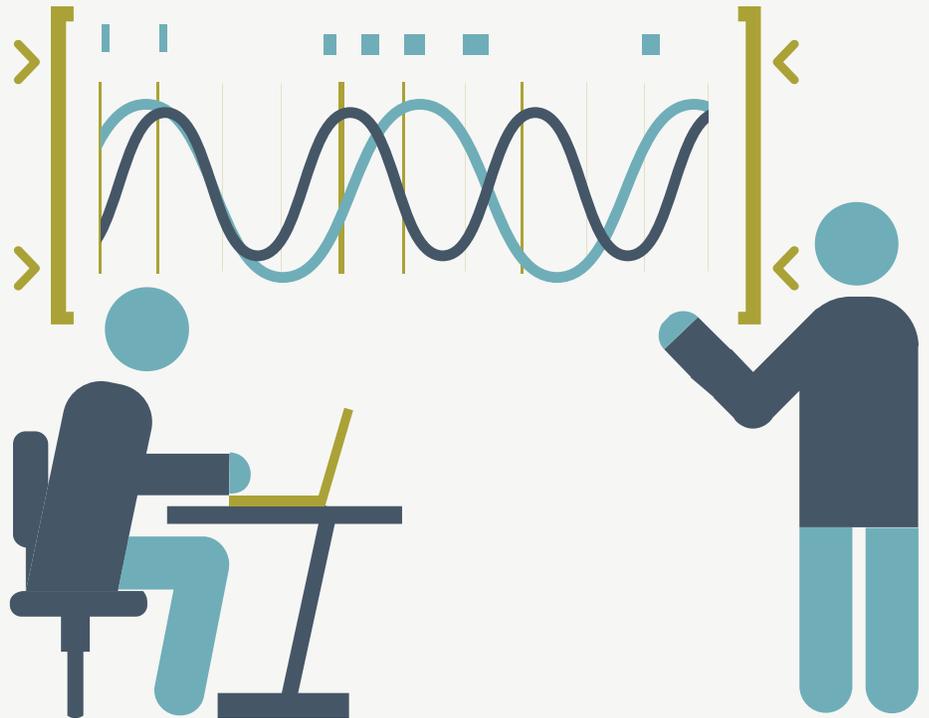
Instituting an Analytics Program

During the second quarter of 2013, GlobalHealth began examining its options for building an analytics program.

The internal information technology team strongly believed they could develop the necessary data infrastructure. However, they estimated that it would take two years to build. That time frame was just too long.

Instead, GlobalHealth began to review the possibilities offered by external vendors.

“...the predictive analytics solution we selected looks at those members as well, it also identifies members who haven’t generated high costs in the last 12 months but are very likely to have serious health complications in the near future.”



“There are two regional data repositories that some local health systems and carriers share,” said Thompson. “They were pretty watered down. There wasn’t anything that we didn’t already have.”

“We also looked at some national vendors and didn’t get much from them. There was a lot of polish but not much meat behind them. The vendor we finally selected may not have had as much polish as some of the others, but they had a lot of substance: very strong data architecture and legitimate interfacing capabilities.”

One of GlobalHealth’s priorities was finding an analytics partner with a solution that could seamlessly integrate and evolve with their existing IT structure. They selected a predictive analytics vendor with a proven track record.

“Most health plans look at the members who have generated the most costs historically and focus on them,” said Scott Vaughn, President and CEO of GlobalHealth.

“Whereas the predictive analytics solution we selected looks at those members as well, it also identifies members who haven’t generated high costs in the last 12 months but are very likely to have serious health complications in the near future.”

“We call that ‘insights as a service,’” said Thompson. “We sort through the data, say ‘this is what it means,’ and these are the actions you can take to see results.”

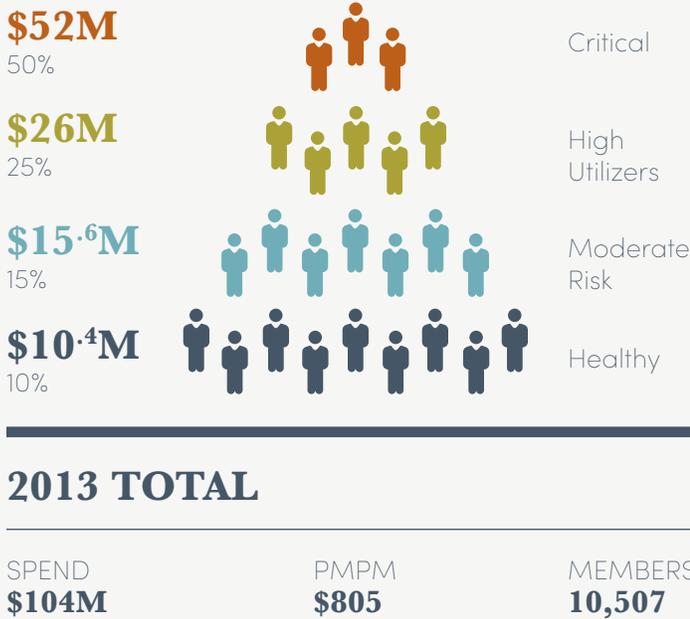
Once the predictive analytics partner was selected, they ran a regression analysis on GlobalHealth’s member data to identify care gaps. GlobalHealth provided a crash course on the Oklahoma healthcare scene and the care gaps encountered through the care management program.

“What wound up happening was we informed each other in the process,” said Thompson.

GlobalHealth uses a novel approach to risk stratification to identify opportunities.

FIGURE 2

The Old Way: One-dimensional Stratification



Traditionally,

most organizations only use historical utilization (spend) to understand population risk and cost differences with respect to variations in care, non-compliance to evidence-based care guidelines, and opportunities for care management. This is a one-dimensional risk stratification, shown in Figure 2.

Instead,

GlobalHealth considers a multi-dimensional risk stratification approach using predictive risks (disease specific risks, composite risks, utilization risks) and outcomes (PMPM, hospitalizations, ER visits) to understand the population's state of health (SOH) at any point in time, as shown in Figure 3.

FIGURE 3

The New Paradigm



Critical

- High-cost, high-clinical risk score members
- High utilizers today account for about 50 percent of the total population spend
- High-cost intervention in progress
- Includes hospitalization, ER visits, high-cost procedures, medications

High Utilizers

- High-cost burden relative to actual health risk
- May include those with non-clinical risk (socio-economic, accessibility)
- Non-compliant members (avoidable ER visits, medication, other)

Hidden Risk

- High risk relative to care being received
- Disease(s) not well-managed
- High-cost intervention on the horizon
- Headed toward "critical" quadrant if unmanaged

Healthy & Unknown

- Healthy individual with appropriate status on the cost/risk curve
- Probably includes some "hidden unknown" if they're "new" to the portfolio or never use services

Understanding the Population's State of Health (SOH)

At Any Point in Time

Using the SOH quadrant approach to understand the changes in the state of health risk from year to year, GlobalHealth was able to determine the drivers of changes in costs and risks. This approach helped them to understand what percentage of costs were coming from (FIGURE 4):

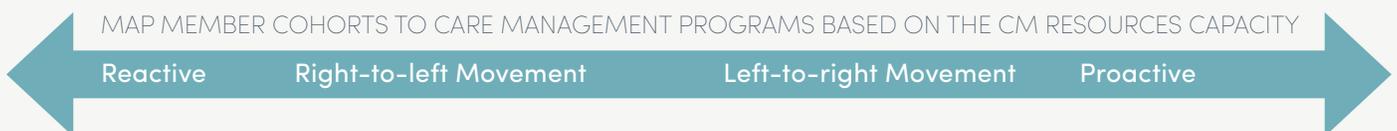
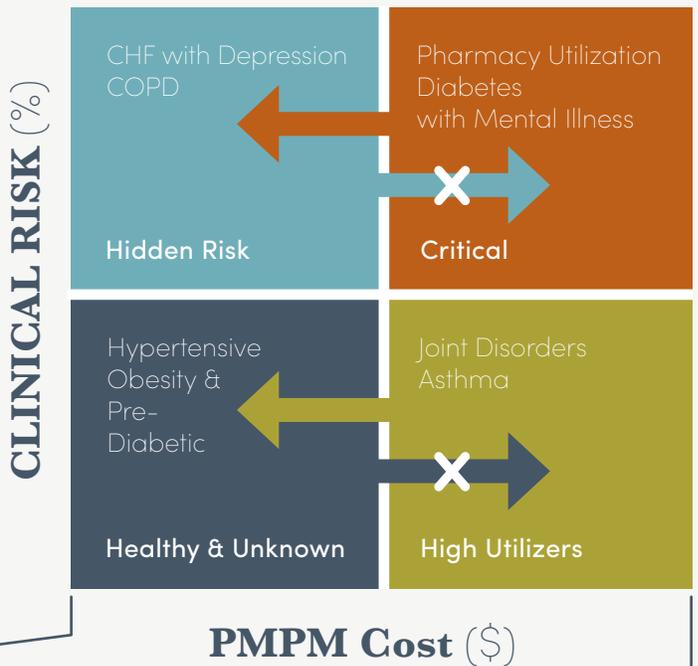
- New members
- Member movement from a "Hidden" to "Critical" state
- Member movement from a "Healthy & Unknown" to "High Utilizers" state

- Per Unit Cost changes, etc.
- Impact of any current care management programs on populations that move from the left quadrant to "Critical" and "High Utilizers" quadrants.

By identifying these 'mover populations,' GlobalHealth identified the cohorts of population to target for care management programs, and designed the right care management programs supported with the optimal resources, as shown in Figure 5.

FIGURE 4
Identifying 'Mover Populations'

FIGURE 5
GlobalHealth Care Management Resource Planning Framework



Refining the Program

Key Success Drivers of Outreach

Less than six months after finding their analytics partner, GlobalHealth officially launched its proactive outreach program on January 1, 2014.

“We had to sort out the false positives in the data,” said Anderson. “We had done a lot of that work

before we went live, but there were some remnants. When you launch something like this, it’s really more of a pilot because you have to work through all the different kinks.”

“When we started, we first used our existing case management staff and

weren't getting the kind of traction that we needed,” said Vaughn. “Our solution was to create a separate unit dedicated to member outreach, and once we did that we started seeing a significantly higher level of success.”

1

MEMBERS RESPOND BETTER TO COLD CALLS FROM A NURSE

Originally, member outreach calls were set up in advance through a scheduler who would spend time performing a lengthy nursing assessment. The scheduler would



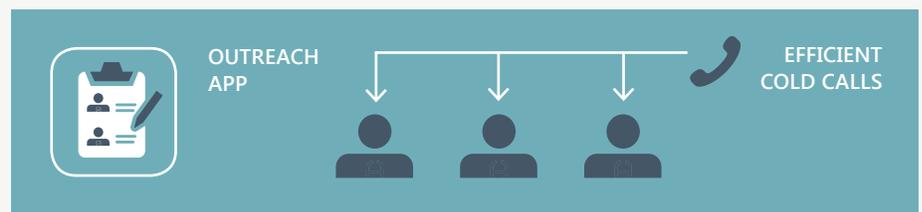
then set up a time for a nurse or clinician to call the member back. “It didn’t really work,” said Anderson. “After the member went through that long initial call they

wouldn’t answer the phone when the nurse called. We found that it’s more effective to do a cold call. The members seem to be more receptive.”

2

DEVELOPED NEW APP THAT PRIORITIZES MEMBERS TO CALL

The predictive analytics platform has evolved to meet GlobalHealth’s changing needs. For example,



based on feedback from outreach clinicians, GlobalHealth’s vendor developed an application that

prioritized members to call and incorporated their detailed clinical and socio-economic information.

3

PHARMACY AND MEDICAL CARE MANAGEMENT TEAMS JOINED UNDER ONE REPORTING UMBRELLA



In order to ensure the success of its outreach efforts, GlobalHealth made many organizational adjustments for greater efficiency and flexibility. One change was to unite the pharmacy and medical

care management teams under one reporting umbrella. This helped facilitate communication between the teams and streamlined outreach management.

4

NEW OFFICER TO LIAISE BETWEEN GLOBALHEALTH AND PREDICTIVE ANALYTICS VENDOR



Kyle Hager

Director of process improvement & business optimization | GlobalHealth



Another shift was to create a new corporate position responsible for funneling information between GlobalHealth and the predictive analytics vendor. In mid-2015, GlobalHealth hired its first director of process improvement and business optimization, Kyle Hager.

“After the first half of 2014 we felt like we had a proof of concept,” said Thompson, “and the next half of that year we started planning and staging for enhancements. 2015 was when we started deploying those enhancements and adding team members like Kyle, who is a process engineer and able to look at the value stream across all areas and enhance it.”

“It’s really a partnership... we give them inspiration and they come back and say, ‘Yes, we need this specific data.’”

Hager’s responsibilities can be viewed as twofold. First, he interfaces with the predictive analytics partner to refine the data and pinpoint smaller high-risk populations, ensuring that GlobalHealth’s outreach programs are directed where they are most needed.

“It’s really a partnership,” said Hager. “We go to them with an idea, for example, ‘Is there a way to compare people who are admitted to the hospital twice within 30 days to those people who are only admitted once for the same reason?’ So, we give them inspiration and they come back and say, ‘Yes, we need this specific data.’”

“In the process we’re constantly giving them more data. They’re looking at the data in a different way. When they see something we didn’t recognize they bring that up too. So, we’re able to drill down and focus on a smaller population and make a bigger impact on the members’ lives.”

Second, Hager frequently communicates with outreach managers and clinicians, listening to their needs and sharing information in order for the predictive analytics partner to refine their service offering. Over this time, the call center application was continuously enhanced based on this feedback, as provided by Hager.

“We have it whittled down to what we call insights,” said Hager. “It’s like a news ticker across the bottom of the screen. All of this information is boiled down into a snapshot that helps the nurse quickly develop a rapport with the member.”

A care manager reached out to Dawni Brison because she recently had part of her foot amputated due to complications from diabetes. Dawni is a school teacher and, during the outreach call, the GlobalHealth care manager learned that Dawni was having difficulty getting around school and would often fall. The care manager found Dawni a physical therapist who recommended a prosthetic forefoot with toes. Our care manager began researching in-network prosthetic device companies. During this time, Dawni would call the care manager, often crying, because she was worried about the expense. The care manager consoled Dawni and was able to find a company willing to work with Dawni on the cost. Dawni has been fitted for her prosthesis and given a temporary metal plate until the new prosthesis is ready. Dawni says the plate is working well, she can balance better, and is looking forward to her permanent prosthesis.

Building on the Opportunities: the Outreach Program

Creating an effective outreach program can be difficult. People are often suspicious when they receive a call from their insurance company. It's not enough to be armed with data and information, the care manager needs to be able to listen to the attitude of the member and respond appropriately.

"Originally there was some hesitation from our members, and we had to learn how to tailor our approach," said Vaughn. "It's all about how we interact with our members so they understand that we're there to help them navigate this complex healthcare system."

"Members may wonder aloud, 'What are you going to do, raise my premium or cancel my insurance?' because we're asking them health questions," said Anderson. "It's important, early in the conversation, to address that this is a program designed to help you, and it does not affect your premium. It's all in the way we present it to the member. For the most part, I would say 95 percent of the people we reach out to are receptive. Frequently, they want help and they just don't know how to help themselves."

Currently, the state of Oklahoma ranks near the bottom in many national health categories⁴. Therefore, outreach nurses and clinicians must effectively communicate with the member by compassionately educating them about their healthcare

condition and options for managing their conditions.

"It's important, early in the conversation, to address that this is a program designed to help you, and it does not affect your premium."

These nurses and clinicians also need to have the autonomy to make healthcare decisions that are in the best interest of the members.

It's this level of thoughtfulness that elevates an outreach program from merely effective to extraordinary. Members are much more likely to respond positively and become proactive about their own healthcare when they feel that their care managers are working so diligently to assist them.

"What we're really trying to do is improve quality of life," said Hager. "That's why having the right nurses on the phone makes all the difference. We get Meals On Wheels to people,

we help them find community services, and we get them a ride to the doctor if that's what they need. Those are the kinds of things that make or break the program."

However, also included in this autonomy has to be a willingness to fail. While it may not happen often, an outreach nurse must understand that members are autonomous as well, and not everyone will be receptive to outreach.

"We get Meals On Wheels to people, we help them find community services, and we get them a ride to the doctor if that's what they need."

"If a member refuses care management, we will go back and audit to see why, for whatever reason, they are not engaged with us. Then, we'll try a second outreach and sometimes we can break through on that second call. But we're very careful not to harass them. If they don't want it, we can't force them," said Anderson.



We get Meals On Wheels to people



We help find community services



We get them a ride to the doctor

For example, a nurse reached out to an elderly gentleman, Morris Velo, because his A1C level was high. This gentleman was legally blind, so the nurse arranged for home health services to visit and routinely test his blood sugar levels. While this change helped to stabilize the member's health, the nurse also obtained a talking glucometer for Mr. Velo, so he could be more self-reliant and is actively working with him to make positive diet changes going forward.

Why GlobalHealth's Outreach Program Works

In a relatively short amount of time, GlobalHealth launched its outreach program and has experienced success. Members' lives have been positively impacted and millions of dollars have been saved.

Some of the reasons for this program's success are unique to GlobalHealth and its corporate culture while others are more universal and could pertain to a variety of payers. What is clear though is any payer

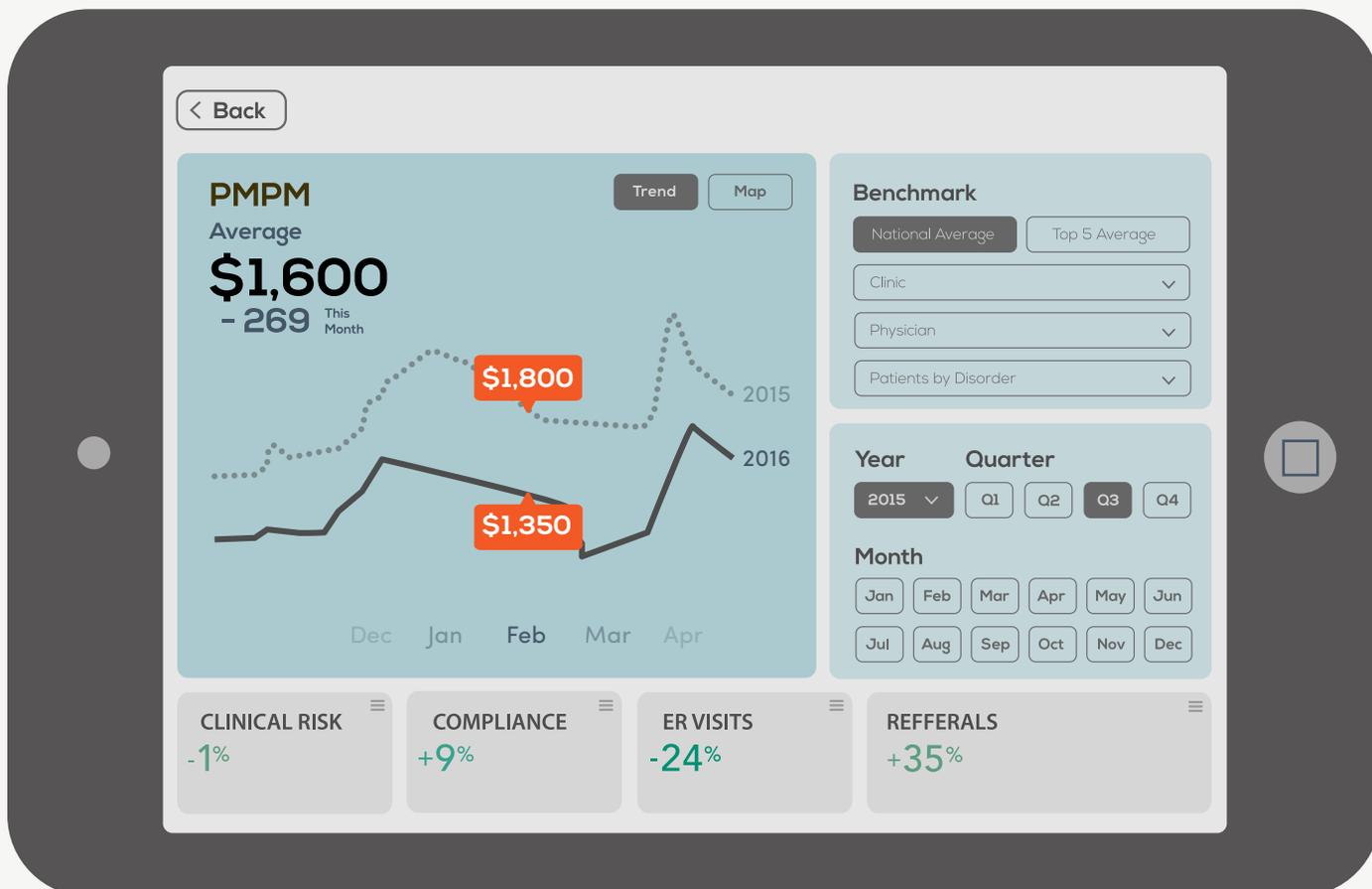
or provider interested in an effective outreach program could certainly find lessons from GlobalHealth's example.

1

ONGOING PERFORMANCE TRACKING & DYNAMIC FINE-TUNING OF THE CARE MANAGEMENT PROGRAMS

GlobalHealth uses monthly dashboards for each care management program to understand the performance drivers. This helps them to tweak their care management programs to respond to their members' needs. It gives them a continuous view of the impact their efforts are having rather than waiting until the end of the year before GlobalHealth can see its overall success.

FIGURE 6 | The GlobalHealth Performance Dashboards



2

UNIVERSAL ACCEPTANCE

Since its inception, GlobalHealth has been focused on member outreach and wellness management; it was just that the outreach typically occurred after a catastrophic health event. When it made the change to proactive outreach, it was a small nudge in corporate culture not a huge paradigm shift.

"I can't say I've ever heard internal skepticism about what we do and how it impacts our membership," said Anderson.

Naturally, there were internal debates as to the best method of instituting an analytics program. However, the question of whether or not to institute the program itself was never up for debate – it was never even a question.

3

AGILITY TO EVOLVE

During the implementation of the analytics program, GlobalHealth proved time and again they were willing and able to evolve as needed to ensure the success of the program – whether it was combining departments to work together instead of in silos or reorganizing the corporate structure by hiring and creating new positions.

In addition, the company found a partner who was willing to listen to feedback and change their process as needed.

"They were willing to mold and adapt their approach instead of providing us some out of the box solution," said Thompson. "Those were the pieces that our internal team and some other vendors weren't able to provide. We wanted this solution immediately because of how important it was."

4

LOCAL FLAVOR

Healthcare is regional and every area faces its own specific healthcare issues and care gaps. GlobalHealth takes advantage of their regional knowledge and uses it to enhance the outreach program.

"The people who answer our phones, reach out to members, and do home visits are all locals," said Thompson. "The executives all the way down to the folks running the customer care center are here in Oklahoma. That resonates with a lot of our members. They like to talk to people who are Oklahomans. They feel like they have someone who they can call back and that they can count on when they have healthcare needs."

When GlobalHealth nurses make outreach calls, they are armed with a wealth of member information from the predictive analytics platform. They also have an expansive knowledge about the region and how to find solutions that go beyond standard healthcare options.



For example, take the case of Linda Young. Linda's husband is blind and she requires a wheelchair. During the course of an outreach conversation, the care manager discovered that the couple was having issues because leaving their house had become extremely difficult. The care manager, knowledgeable about the community and its available resources, was able to assist the couple by finding a local charitable organization to help them have a wheelchair ramp installed.



Future Outlook

PROJECTED HEALTHCARE
COST SAVINGS 2016

\$25M

GlobalHealth intends to continue to evolve their data analysis and outreach program. Plans include bringing in more data sources – including clinic, laboratory, and imaging center medical records – to further refine the analysis.

The overall goal is to continue to reduce medical costs by improving the health and wellness of their members.

“There’s a lot of waste in health-care,” said Thompson. “That’s why we made achieving a negative trend an objective of ours. As we lower premiums and improve benefits, we believe we’ll reach a negative 10 percent trend on this initiative and then continue the cycle.”

“We have had a 10 times return on our investment and the value we’ve gotten out of it in terms of reduced healthcare costs,” said Vaughn.

“This year, we have an initiative in place where we plan to reduce

healthcare costs by 10 percent. That would be about 25 million dollars in savings that we can then pass on to the members, use to improve healthcare benefits, or reinvest to help us deliver better service.”

“This program is ever changing,” said Hager, “and just about the time you think, ‘Ah ha, we’ve got it, this is the magic recipe,’ we get a new piece of data from labs and we think, ‘Wait a minute; we can refine that better.’ And that’s where our predictive analytics really come in. We run thousands of analytical models and that number is continuing to grow. I don’t know that it will ever stop.”

Acknowledgments

Thank you to the following people who provided their expertise and insights:



Scott Vaughn

President and CEO | GlobalHealth

Scott is the president and chief executive officer of GlobalHealth, a \$250 million health maintenance organization. GlobalHealth provides affordable healthcare coverage to over 45,000 Oklahomans.

Before joining GlobalHealth in December 2010, Scott was a partner with a top 10 national CPA and consulting firm for 17 years. During his tenure with the firm, he served as the National Industry Partner providing oversight to the firm's national healthcare audit, tax and consulting practice. During early 2010, he chaired a task force which researched the monumental healthcare reform legislation that was signed into law earlier in the year, analyzing the impact of reform on the firm's healthcare clients throughout the U.S.

Scott has been actively involved in community and civic organizations, most recently co-chairing the Tulsa Area United Way's Alexis de Tocqueville committee with his wife Kayla. He has also served as the president of the Child Abuse Network, a member of the advisory board for the Salvation Army – Tulsa, and is a member of the advisory board for the Oklahoma State University School of Accounting. In 2008, the Speaker of the Oklahoma House of Representatives appointed Scott to serve on the board of investors for the Oklahoma Tobacco Settlement Endowment Trust. Scott received his bachelor's degree in accounting from Oklahoma State University in 1993.

Scott and his wife Kayla have a son, Benjamin.



David Thompson

SVP and COO | GlobalHealth

David is the senior vice president and chief operating officer of GlobalHealth. His role as senior vice president and chief operating officer includes responsibility for all operational aspects of the business, including benefits administration, membership eligibility and enrollment, clinical case management, pharmacy and behavioral benefit management, quality improvement, provider contracting, claims processing and health plan customer service.

David brings 17 years of healthcare experience to GlobalHealth as a former financial controller with a national specialty hospital system and as a former management consultant with a top 10 national CPA and consulting firm. During his tenure with the hospital system, he served as the lead on initiatives that enhanced healthcare data management and reporting by way of streamlining information system exchanges and improving process and procedural integrity. During his tenure with the firm, he served in a client service capacity by identifying and helping implement financial and operational solutions to a national provider client base.

David received his bachelor's degree in accounting with an emphasis in management information systems from Oklahoma State University.

David has been actively involved in community and civic organizations, most recently serving on the financial advisory board of the Hospitality House of Tulsa. David and his wife Kerrie are Oklahoma natives and proud parents of their three children Tess, Mira and John.



Jay Reddy

Co-Founder and CEO | VitreosHealth

Jay Reddy co-founded VitreosHealth and serves as its CEO since 2009. Prior to Vitreos, Jay was the Chief Marketing Officer at CombineMed, a joint venture with the University of Pittsburgh Medical Center (UPMC), helping healthcare organizations drive savings through strategic sourcing technologies.

Before joining CombineMed, Jay was the CEO of MindFlow Technologies, a firm he founded with the vision of delivering operations productivity improvements for global 1000 enterprises through optimization-based decision support technologies. Under his leadership, MindFlow was ranked in the visionary quadrant by Gartner and ranked in the Top 100 emerging companies by ComputerWorld, prior to its acquisition in 2006.

Jay holds an undergraduate degree in chemical engineering from IIT, Delhi, and earned his MB from the University of Michigan, Ann Arbor

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