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Leveraging Telehealth to Achieve Greater Patient Engagement and Population Health Management in Cardiac Patients

As the worlds of healthcare and technology continue their collective and concurrent evolution, telehealth is perfectly poised for inclusion in Triple Aim initiatives, with its potential to increase patient engagement and improve health outcomes.

This white paper explores how patient engagement interacts with and impacts population health initiatives, and also examines how healthcare providers can use telehealth solutions to enhance the patient engagement component of population health. This is done through the analysis of two case studies, reflecting the successful work within two hospital networks – Michigan-based Beaumont Health and Illinois-based Rockford Memorial Hospital – and their drive to reduce readmissions among cardiac patient populations.

Defining Population Health Management & Patient Engagement

Population health management (PHM) is the process of improving the health outcomes of a group of people by identifying and monitoring specific patients within that group. In most cases, PHM programs use a business intelligence tool to compile information and offer a full, detailed clinical portrait of every patient. With the help of that information, healthcare providers can then track and improve clinical outcomes for patients, while at the same time lowering costs of care.

An exemplary PHM program combines financial, clinical and operational data from all across the enterprise and offers clear, actionable analytics for healthcare providers to enhance efficiency and the quality of patient care. Therefore, for a PHM program to operate at peak efficiency, there must be robust risk stratification and care management infrastructures in place, as well as a properly managed partnership network and a cohesive system for delivery.

Producing an effective PHM system has a number of key advantages: better health outcomes at lower costs, help prevent readmissions related to chronic diseases, and close care gaps.

According to the Agency for Healthcare Research and Quality's Medical Expenditure Panel Survey, U.S. healthcare expenditures totaled $1.35 trillion in 2012[1], with the lion's share of medical care expenses highly concentrated among certain patient populations.

The survey found the top one percent of the population ranked by healthcare expenses accounted for nearly 23 percent of total healthcare expenditures (and with an average cost of $97,956 per patient per year). The top 5 percent of the population accounted for 50 percent of total expenditures (with an average annual expenditure of $43,058 per patient per year)[1].

The costliest medical conditions cited along with the survey include heart disease, chronic obstructive pulmonary disorder (COPD), trauma-related disorders, cancer, and mental disorders.

By encouraging patient engagement and aiming population health efforts among these small (but costly) populations, providers can help **keep patients healthy while lowering associated costs.**

In addition to the clear economic benefits, a PHM system can also **help prevent readmissions related to chronic diseases,** with the assistance of IT solutions specifically programmed to track and manage patient care. In the cases of both Beaumont Health and Rockford, both were able to address high readmission rates among cardiac patient populations by addressing the specific needs of those patients with technology solutions.

1 Healthcare Research and Quality's Medical Expenditure Panel Survey: http://meps.ahrq.gov/mepsweb/data_files/publications/st455/stat455.pdf

Finally, PHM is designed to **close care gaps,** giving medical professionals and healthcare organizations access to address patient needs on an individual basis through patient-customized care plans. On the other side of the equation, PHM strategies are intended to provide patients with the tools and resources they need to be able to implement those care plans and care plan directives – with ongoing input from their healthcare providers.

The importance of patient engagement in population health management

As implied by its name, a successful population health management program hinges on the effective management of an entire patient population (rather than tending to individual patients), with the goal of minimizing costly interventions such as emergency department visits, hospitalizations, imaging tests and surgery. This has resulted in healthcare providers trying to effectively reach high-risk members – those who generate the majority of health costs – and focus on prevention and the challenges of chronic illness.

Engaging patients is not limited to providing them with basic health information, but providing information that is truly relevant, useful and actionable. For years, healthcare providers have needed to take a one-size-fits-all approach when communicating health information. The reality is that individuals have varying views and motivations when it comes to healthcare behavior.

Some of the key barriers among patients are: time, access to health services, cost, conflict with lifestyle, and trust/confidence in the people/organizations providing programs. In many cases, patients don't understand what benefits are available or how to use them, including the wellness and disease management programs that rely so heavily on successful engagement.

Ultimately engagement programs must be designed to achieve positive changes in health behaviors, use of health benefits and interactions with providers.

Using Telehealth to Achieve Greater Patient Engagement

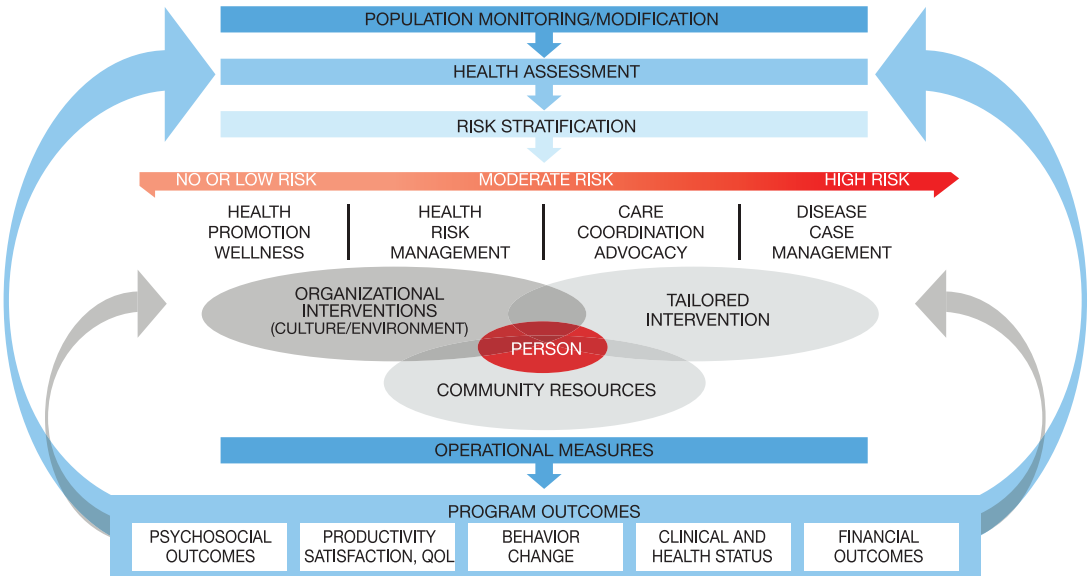
The benefits of using telehealth, or remote patient monitoring, are well-documented with respect to results such as enhanced efficiency for healthcare provider staff, increased patient engagement, and greater patient satisfaction.

Research shows that telehealth technology can help improve clinical outcomes at lower costs for home healthcare. In a study by researchers at the University of Minnesota Medical School[2], virtual visits between skilled home healthcare nurses and chronically ill patients at home were found to improve patient outcomes at lower costs than traditional face-to-face home healthcare visits.

Case in point: Using telehealth solutions to increase patient engagement among cardiac populations

The ongoing work of two home health organizations – Oakwood Home Care (now part of Beaumont Health) and VNA of the Rockford Area (part of the Rockford Memorial Hospital system) – can be examined as examples of successfully increasing patient engagement within cardiac patient populations following the implementation of telehealth systems.

2 Finkelstein SM, Speedie SM, Potthoff S. Home Telehealth Improves Clinical Outcomes at Lower Cost for Home Healthcare. Telemedicine and e-health 2006;12(2):128-136.



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http://www.populationhealthalliance.org/research/understanding-population-health.html

Oakwood Home Care was looking for ways to reduce readmissions and improve the health of the cardiac patients coming out of its hospital network, and decided to try using a new telehealth solution: Honeywell's Genesis Touch remote patient monitoring (RPM) devices, which integrate video and do not necessitate the use of landlines in homes.

Oakwood Home Care's program consists of sending home wireless monitoring equipment, including a blood pressure cuff, weight scale, pulse oximeter and Honeywell's Genesis Touch tablet.

With an overarching goal of preventing readmissions in the long- and short-term, their pilot program involved leaving the RPM devices in the patients' homes for as long as necessary – absconding the existing structure around CMS' 60- to 90-day reimbursable period.

As with other telehealth programs, patients interacted with their healthcare providers on a daily basis through an exchange of biometric data. Patients were responsible for providing the data at specific times, and as they did so, they took note of the changes from prior days, as did their healthcare provider, who was looking at the data on the other side of the exchange.

With healthcare providers – some of whom have more than 20 years of experience – monitoring the data, early "red flag" trends such as weight gain, or missed prescriptions and doctor appointments, result in immediate action: calling the patient, scheduling a physician appointment, or sending a nurse for a home visit.

In the program's first year of operation, Oakwood has succeeded in reaching its readmission goal: **5%** of the **638** patients monitored from January to November 2015 were readmitted within 30 days.

An analysis of the patients after the trial phase also revealed increased patient satisfaction and greater quality of life. Patients were more informed about their health, as were their family members.

Based on its initial success, Oakwood plans to extend its program even further by adding extra monitors to keep up with growing patient populations, and incorporating new features such as video visits, a benefit offered through the Genesis Touch tablets.

A similar case, the Visiting Nurses Association of Rockford (VNA) has been using Honeywell's remote patient monitoring (RPM) services to engage with its patients and keep hospital readmissions low for more than half a decade.

Two years ago, the VNA team realized they could expand access of its telehealth services to previously non-qualified, high-risk chronic heart failure (CHF) patients to bring about sustained readmission reductions. It therefore implemented its **Heart & Vascular Program,** which identified high-risk CHF patients who could benefit from RPM in both the short and long term.

Even though a subset of cardiac patients treated for CHF weren't eligible for home health services because they didn't qualify under Medicare guidelines, VNA recognized that in most cases, RPM could work to keep those patients from being readmitted to the hospital.

To that end, the staff at VNA worked with Rockford Memorial Hospital cardiologists to create the new program which allowed any patient being treated by a hospital cardiologist to receive a monitoring device – whether they qualified for VNA services under Medicare or not.

The VNA staff and hospital cardiologists created protocols and standards around the RPM services for each patient. If the VNA telehealth nurses observed that a Heart & Vascular Program patient was exhibiting out-of-normal range vital signs, they alerted the patient's cardiology staff, who then made contact with the patient and worked with them to address any health issues.

Oakwood Home Care Services

As part of Beaumont Health, Oakwood Home Care delivers high quality healthcare to hundreds of residents throughout southeast Michigan, with specialized home care services that include the following:

- Diabetes Self Management
- Cardiac/Congestive Heart Failure
- Orthopedics & Rehabilitation
- Wound & Ostomy Care
- Infusion Therapy
- Vestibular Rehabilitation
- Deep Vein Thrombosis Therapy
- Care Connection
- Telehealth

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As with Oakwood's case study, one trend became quickly apparent: After long-term monitoring, the patients' vital signs indicated a change in lifestyle had occurred, often diet modifications and increased levels of exercise. Once the patients were an active part of the process of managing their health on a daily basis, they reported they "felt empowered to make significant lifestyle changes" that contributed to increased good health.

With CHF patients representing a large portion of hospital readmissions, VNA recognized correctly that engaging with that population could have significant impact in reducing readmission rates, and the VNA cited they were able to measure highly successful results within the program participants, as readmission rates for high-risk CHF patients dropped to about **four percent**.

Keep your patients engaged for better healthcare results

Based on these cases, it is clear that having increased patient engagement in care management is demonstrative of better outcomes. Patients who have the ability to monitor their own vital signs, in conjunction with their healthcare representatives, are less likely to be readmitted to the hospital.

The successes experienced at Oakwood and VNA Rockford indicate greater patient engagement produces better health outcomes in both the short and long term – allowing providers to impact not only readmission rates but patient satisfaction rates as well.

Visiting Nurses Association of Rockford

The Visiting Nurses Association of Rockford (VNA) is a part of Rockford Health System and the largest non-profit home care agency in northern Illinois, providing compassionate care to Rockford area residents for more than 100 years. Physicians, case managers, discharge planners, and most importantly, patients and families, depend on them for professional patient-centered clinical care and personalized services.

VNA is ranked in the top 25 percent of all Medicare-certified home health agencies for financial stability, quality patient outcomes, and patient satisfaction. They are certified by Medicare and Medicaid, and are accredited by the Joint Commission on Accreditation of Healthcare Organizations.

VNA consists of four core programs:

- Home health
- Home medical equipment & supplies
- Hospice
- Older adult services