

## MAINTAINING COMPLIANT PRACTICE

# Reducing Readmissions for CHF with Collaborative Care and Clinical Prevention

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*What you will learn: Seeking to reduce the number of avoidable readmissions among a targeted population, one health plan leaned on clinical analytics, care management applications and software, and data-mining to achieve high-quality outcomes.*

Approximately 5.1 million Americans have congestive heart failure (CHF), and another 670,000 new cases are diagnosed annually.<sup>1</sup> According to the American Heart Association and the Heart Failure Society of America, the condition is responsible for 11 million physician visits each year and results in more hospitalizations than all forms of cancer combined.

For the North Carolina State Health Plan for Teachers and State Employees (the Plan), the rising costs associated with caring for a large population of individuals with chronic conditions like CHF was a growing concern. The Plan, which provides medical benefits and health management programs to educators, state employees, retirees and their dependents, serves a highly diverse population. In total, the Plan has approximately 543,000 members, including actives, COBRA and pre-65 retirees. More than half of its members have at least one chronic condition, and these individuals drive about 76 percent of the plan's health costs.

To help improve the health of its members and curb rising expenses, the Plan decided to take action by building a comprehensive population health and wellness program. At the outset, one of the main objectives of the program was to reduce hospital readmissions related to CHF. With the right support from providers and care managers, the Plan believed members diagnosed with CHF would be better positioned to follow recommended care guidelines, minimize

the risks associated with the condition and avoid complications. Additionally, the Plan hoped to build a model that would combine collaborative care and clinical prevention to improve outcomes and enhance overall quality of care.

In 2010, the Plan collaborated with a population health management (PHM) vendor to launch this program. The two organizations worked together to continuously evaluate the impact of the health and wellness program by developing targets for improved health outcomes to gauge its impact. The goals were based on national standard clinical outcome measures as well as prior Plan performance and were evaluated on a continuous basis.

## Leveraging Analytics

While hospital readmissions were certainly an issue for all Plan members, they were especially prevalent among members with CHF. In 2011, the readmission rate for this segment of the Plan's population was 11.5 percent, with nearly 300 readmissions for this condition occurring annually.

According to the Healthcare Cost Utilization Project, the average cost of a CHF readmission is \$13,000, or about 113 percent of the cost of the original admission, and the future readmission rate is 25.1 percent.<sup>2</sup> To address this all-too-common, but potentially avoidable issue, the PHM vendor began working to find a way to better manage transitions between care settings for at-risk members in hopes of bringing readmissions back in line with established clinical targets.

One unique challenge of targeting individuals with CHF is that many individuals are unaware they suffer from the disease. Members may have been told they have "a weak heart" or

"heart trouble," but cannot identify the exact nature of their disease. People with CHF also have a high incidence of comorbidities, such as chronic obstructive pulmonary disease, dementia, renal failure, hypertension and diabetes that further complicate their condition. By identifying members for intervention and providing intensive, personalized education, the Plan hoped to effectively engage those at risk for readmissions.

To that end, the program leveraged advanced technology – including clinical analytics, care management applications and software, and data-mining capabilities – to identify these individuals and provide targeted support in a timely manner. Robust data, including medical and pharmacy claims, lab and other encounter data, clinical alerts and discharge summaries, was aggregated into individual member profiles and used to individualize outreach and care management efforts.

Using that data, the Plan was also able to pinpoint where each individual member with CHF resided on the comprehensive "spectrum of health" to determine the most impactful interventions. This systematic method ensured each individual had access to the resources and guidance needed at the time it would have greatest impact.

## Generating Care-Related Alerts

Another key component of the strategy is to continuously scan the unique member health profiles to find opportunities to improve treatment. One significant way this takes place is through the identification of health risks or gaps in care, which are then messaged to providers, care managers and/or members via numerous communications channels. For example, if a member is

at risk for a potentially harmful drug interaction or overdue for a needed health screening, it will immediately trigger an alert.

The clinical alerts are generated by an analytics platform, which is driven by thousands of algorithms that are able to construct a comprehensive picture of each member's health, from the conditions afflicting them to the medications they consume. Specifically, this information includes gaps in care, acute and chronic conditions, lifestyle risks, comorbidities, at-risk conditions and alignment with more than 200 quality measures.

These evidence-based algorithms are created by a team of clinicians who have devoted thousands of hours of research into the development of the rules, resulting in data that leads the industry in its clinical rigor and accuracy. In a controlled study published in the *American Journal of Managed Care*,<sup>3</sup> the utilization of clinical alerts like those in the CHF program increased compliance with recommended care guidelines by 12.5 percent. Those that identified potential gaps in screening, diagnostic and monitoring tests experienced the greatest increase in compliance – a 26.4 percent improvement compared to the control group.

By delivering actionable insight, these alerts equip members and their providers with the knowledge they need to reverse or remediate potential risk factors and better manage their health. In addition to supporting a higher quality of care and strengthening the provider-member relationship, this innovative approach also helps to reduce medical errors and optimize utilization by enabling individuals to avoid unnecessary hospitalization and emergency room visits.

### Timely, Intensive Follow-Up

A process of high-touch outreach was also employed to educate members and provide individualized support based on their unique needs and risk factors. The goal was to reach out to the member within 24 hours of a hospital discharge and follow up frequently for the next 30

days, the most critical window of time for a member post-discharge.

In addition to live nurse outreach, an automated interactive voice response (IVR) also helped make initial contact with members. The IVR system enabled maximization of resources by providing additional touch points and confirming that key elements of the care transition were being addressed. It also immediately directed members to a nurse coach for intervention and support if needed. Later, after the initial post-hospitalization timeframe, periodic outreach was continued to ensure members were adhering to their recommended treatment plan.

### Engaging and Educating Members

While advanced analytics provided an important means to identify and make initial contact with members, another critical element of this program proved to be the expertly trained, compassionate nurses who built relationships of trust with members. These highly experienced nurses focused on several key tasks, including:

- Educating members about potential warning signs of a worsening condition.
- Reconciling medication issues.
- Ensuring members were receiving appropriate follow up.

These specialists helped members prevent avoidable readmissions and complications, and in some cases, they elicited and recognized signs of clinical deterioration. There were even instances when members received life-saving care because of their nurse's recommendations.

To optimize each intervention, nurses had access to insight about each member's health and treatment plan, including clinical alerts about gaps in care and longitudinal health records, made available through workflow tools in the care management application. This information proved essential in accomplishing tasks such as medication reconciliation and aided in the development of dynamic care plans that could be shared with the member's entire care team.

### Measuring Results

As a result of this high-tech, high-touch approach and collaboration with its population health management vendor, the North Carolina State Health Plan for Teachers and State Employees was able to achieve its goal of reducing CHF readmissions. Most recently at 7.8 percent, these rates continue to trend downward, lower than the baseline.

The CHF program, along with the Plan's other disease management efforts, is also having a positive impact on the bottom line. From 2010-2012 the North Carolina State Health Plan's health management and wellness programs have reduced health risks and improved the health of the membership so as to reduce utilization and provide substantial savings to the state.

Most importantly, this model demonstrates how a strategically designed program can keep individuals with CHF healthier and at home while helping them avoid potentially devastating complications from the condition.

### References

1. 2013 ACCF/AHA Guideline for the Management of Heart Failure.
2. Rizzo, Ellie. "6 Stats on the Cost of Readmission for CMS-Tracked Conditions," Becker's Hospital Review, December 12, 2013. Accessed online: [www.beckershospitalreview.com/quality/6-stats-on-the-cost-of-readmission-for-cms-tracked-conditions.html](http://www.beckershospitalreview.com/quality/6-stats-on-the-cost-of-readmission-for-cms-tracked-conditions.html).
3. Rosenberg, et al. "Supporting the Patient's Role in Guidance Compliance: A Controlled Study," *American Journal of Managed Care* Nov. 2008; 14(11):737-744.



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