Population Health Strategies Improve Diabetes Management

HEALTHCARE ORGANIZATION

Community Hospital

PRODUCTS

- Health Catalyst® Data Operating System (DOS™) platform

EXECUTIVE SUMMARY

Thibodaux Regional Health System recognized its patients with Type 2 diabetes had hemoglobin A1C (HbA1c) levels that exceeded the evidence-based guidelines for blood glucose control and sought to improve the health of this patient population. Using a data platform and a consistent improvement methodology, Thibodaux Regional learned more about the challenges to diabetes self-management in its population. The organization was then able to improve its outreach and support for patients with diabetes, achieving:

- 19.1 percent relative reduction of HbA1c for patients with diabetes in the first year of the organization's improvement efforts.
- 14.5 percent relative reduction of HbA1c for patients with diabetes in the second year of its improvement efforts.

DIABETES SELF-MANAGEMENT: A HEALTHCARE IMPERATIVE

Twenty-eight million people in the U.S. are living with Type 2 diabetes, which results in more than $232 billion in total medical costs and lost work and wages. In addition, diabetes increases the risk of severe health complications such as blindness, kidney failure, heart disease, stroke, and loss of lower extremities.[1]

Social determinants of health (SDoH)—including economic stability, education, social and community context, health and healthcare, and neighborhood and built environment—all impact the effectiveness of diabetes self-management.[2]

Thibodaux Regional Health System, a nationally recognized hospital for excellence in patient care, is committed to providing the highest quality, most cost-effective healthcare services possible to the people of Thibodaux and the surrounding areas.

> Placing patients in the center of care is our primary focus. Helping patients succeed in managing their condition goes beyond the healthcare environment. Improving population health requires analytics and real change within the environments where our patients live, work, and play.
>
> Greg Stock
> Chief Executive Officer
> Thibodaux Regional Health System

THE ROLE OF SOCIAL DETERMINANTS OF HEALTH IN DIABETES MANAGEMENT

Thibodaux Regional's service area is in rural, southern Louisiana, where resources and access to care are limited, SDoH play a significant role in overall health.

Thibodaux Regional recognized that its patients with Type 2 diabetes had hemoglobin A1C (HbA1c) levels that exceeded the evidence-based guidelines for blood glucose control, creating a sizeable risk for severe health complications, and sought to improve the health of this patient population. The organization recognized it needed to engage its patients to better understand the barriers to effective diabetes management and create solutions to empower patients to improve their diabetes self-management.

TRANSFORMING DIABETES SELF-MANAGEMENT WITH ANALYTICS AND IMPROVEMENT METHODOLOGY

Thibodaux Regional's care transformation initiative is an internal process to create a valued enterprise by achieving patient-centered excellence. The organization uses the Health Catalyst® Data Operating System (DOS™) platform and a robust suite of analytics applications along with a consistent improvement methodology to help interdisciplinary care transformation teams improve outcomes.

With the support of the CEO and senior executive leadership, Thibodaux Regional assembled a care transformation team to improve diabetes self-management.

The team recognized that diabetes management occurs outside of the clinic, requiring patients to make lifestyle changes to maintain blood glucose control; changes include eating a healthy diet, engaging in regular physical activity, managing blood pressure and cholesterol levels, adhering to prescribed medications, and attending regular visits with the medical care team.

> The diabetes self-management program is all about patients getting more access and more resources to help them feel empowered and better able to manage their diabetes on their own. It is a patient-centered intervention, really focused on helping the patient in their own environment.
>
> Katie Richard, MA, BSN, RN
> Education and Training Coordinator
> Thibodaux Regional Health System

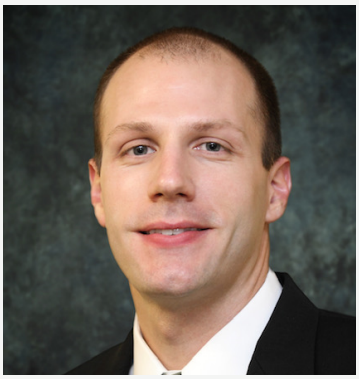
The improvement team engaged its patients in a root cause analysis to better understand the factors contributing to success in, as well as the barriers to improving diabetes self-management. Based on patient drivers of success and barriers, the organization designed a diabetes self-management program that enables patients to address the SDoH negatively impacting their ability to effectively manage diabetes. Patients can access the program at clinics closest to their homes.

When a patient with a diagnosis of diabetes presents at their provider appointment, the provider reviews medications, labs, and patient goals, making adjustments to the medical treatment plan as needed. The provider ensures each patient receives a referral to the diabetes self-management program. Patients who can easily travel to Thibodaux Regional participate in the diabetes self-management program at Thibodaux Regional's Wellness Education Center. Patients in outlying areas for whom transportation may be a barrier receive diabetes education at their local clinic by an advanced registered nurse practitioner.

Clinic staff contact referred patients within three days of the referral, ensuring each receives an individualized, one-to-one counseling session on diabetes self-management and meal planning. Clinics offer educational group sessions to expand diabetes knowledge on eating healthy, being active, monitoring health status, taking medications, and reducing health risks, as well as problem-solving and healthy coping. As patients complete their educational sessions, they return for follow-up visits to evaluate their diabetes management and progress in behavioral goals and modify their treatment plan as needed.

Thibodaux Regional may also refer patients to its WellFit program, a medically-integrated wellness program, to support necessary lifestyle changes, such as adopting a healthy diet and increasing physical activity.

When a provider adjusts or adds a new medication, clinic staff contact the patient within one week to confirm the patient has started the medication; if the patient has not started the medication, the staff inquire about barriers for starting the new dose or medicine. When cost is a barrier, clinic staff ensure the patient receives medication assistance through discounted medication programs or pharmaceutical company programs.



> Using data and analytics, along with engaging with patients to better understand the factors contributing to success in, as well as the barriers to improving diabetes self-management, we were able to identify the root causes and change our processes to decrease the risk of complications for this patient population and reduce the overall cost of care.
>
> Lane Frey, MD
> Endocrinologist,
> Thibodaux Regional
> Health System

Thibodaux Regional also redesigned the inpatient workflow, with clinic staff following up on inpatient referrals while the patient is still in the hospital. The redesigned inpatient workflow enables the staff to initiate a relationship with the patient and ensure the patient has an outpatient appointment for continued management of Type 2 diabetes.

The organization has expanded its community outreach to further improve population health. It offers presentations within the community, emphasizing the importance of eating a healthy diet, engaging in regular physical activity, seeing a provider at least annually, and understanding the risk factors for and symptoms of Type 2 diabetes.

RESULTS

Thibodaux Regional's population-based strategies have positively impacted blood glucose control in its patients with Type 2 diabetes, decreasing the risk of severe complications for this patient population and reducing the overall cost of care. Results include the following:

- 19.1 percent relative reduction in HbA1c follow-up for patients with diabetes in the first year of the organization's improvement efforts.
- 14.5 percent relative reduction in HbA1c follow-up for patients with diabetes in the second year of its improvement efforts.

WHAT'S NEXT

Thibodaux Regional's diabetes care transformation team meets regularly to review and analyze data to address any concerns with sustaining improvements in blood glucose control. The health system plans to use data to improve other aspects of diabetes management, such as hypoglycemic episodes in the inpatient environment.

REFERENCES

1. Centers for Disease Control and Prevention. (n.d.). *A snapshot – Diabetes in the United States.* Retrieved from https://www.cdc.gov/diabetes/pdfs/library/socialmedia/diabetes-infographic.pdf
2. Office of Disease Prevention and Health Promotion. (2016). Social determinants of health. *HealthyPeople.gov.* Retrieved from https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-of-health

ABOUT HEALTH CATALYST

Health Catalyst is a leading provider of data and analytics technology and services to healthcare organizations, committed to being the catalyst for massive, measurable, data-informed healthcare improvement. Our customers leverage our cloud-based data platform—powered by data from more than 100 million patient records, and encompassing trillions of facts—as well as our analytics software and professional services expertise to make data-informed decisions and realize measurable clinical, financial, and operational improvements. We envision a future in which all healthcare decisions are data informed. Learn more at www.healthcatalyst.com.

Visit www.healthcatalyst.com, and follow us on Twitter, LinkedIn, and Facebook.