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Low-Cost Patient Engagement: A Supply Chain Case Study

Healthcare provider best practice from Geisinger



Type 2 diabetes is a major public health problem. By 2050, one in three Americans is projected to have the disease.¹ Globally, cardiovascular diseases, or CVDs (for which diabetes is a major predisposing factor), are the No. 1 cause of death: An estimated 17.9 million people died from CVDs in 2016, representing 31% of all global deaths.²

Moreover, in the U.S., an estimated one in eight adults and one in six children are food-insecure, meaning they have limited or uncertain access to nutritionally adequate and safe foods. Food insecurity has been linked to a variety of chronic diseases, including Type 2 diabetes, heart disease and stroke.³

U.S. healthcare provider Geisinger, based in Danville, Pennsylvania, tackled the overwhelming prevalence of Type 2 diabetes in its communities by providing food-insecure individuals with education, one-on-one support and healthy foods on a weekly basis, primarily via its community partner, Central Pennsylvania Food Bank.

Called “Fresh Food Farmacy,” Geisinger’s population health program helped diabetic patients better control their disease. Geisinger based the program on a food-is-medicine concept, because people can’t control diabetes without the proper nutrition.

Geisinger — which has more than a dozen hospital campuses, 250+ clinics and 3,000+ providers — has provided diabetes management for years. Given the rising prevalence of diabetes, despite the focus on the disease by healthcare providers, Geisinger decided to think outside the four walls of the hospital to evaluate social determinants that impact a person’s health. Geisinger recognized that there was a high rate of food insecurity in the population it served and that there could be a correlation with diabetes if people were unable to afford nutritious foods. Geisinger identified patients who were both food-insecure and had uncontrolled Type 2 diabetes. Geisinger also looked at statewide data to determine an area with high rates of food insecurity. Once identified, patients were enrolled into the first cohort for the Fresh Food Farmacy program.

Fresh Food Farmacy provided three essential elements to patients:



Education: In addition to meeting with a care team composed of a registered dietician, registered nurse, pharmacist and community health assistant, patients received more than 20 hours of evidence-based diabetes education led by certified educators. The highly interactive class focused on goal setting and diabetes self-management. Patients also received a welcome kit including measuring cups and spoons, recipes and nutritional information to use at home.



Healthy food: Each week, patients received enough food from the Fresh Food Farmacy to prepare healthy and nutritious meals for their whole family, twice a day for five days. Providing a meaningful amount of food for the patient and their entire family was critical to changing the health of the patient, the household and the community.



Ongoing support: Patients attended a weekly diabetes self-management support group and utilized an online wellness module to learn more about nutrition. Patients also had access to free, interactive cooking and nutrition classes, as well as other wellness programming, including tobacco cessation, walking programs and other lifestyle management programs.

Innovative supply chain strategies address the problem

The Fresh Food Farmacy is an example of an integrated delivery network (IDN) trading off increased supply chain costs for delivering fresh food to selected patients to reduce the total cost of care.

The program involved external collaboration with a strong community partner as well as internal collaboration across the IT, marketing, human resources and facilities management departments at Geisinger. The food bank provided a majority of the food, with the balance coming from Geisinger's distributor.



Innovative supply chain strategies address the problem

- Nontraditional hospital supply chain approach
- Inventory management adjustments
- Key partnership with community-based partner
- Take care outside the traditional hospital setting
- Internal resource collaboration

The program was challenging to start, with plenty of trial and error, as organizers had to predict an entirely new type of demand. Demand was manually tracked and monitored, with the ordering process adjusted to prevent waste. Eventually Geisinger built a tool to track inventory and processes. The tool showed how much food was on shelves and how much needed to be ordered. It also tracked patient care gaps, whether they were attending classes and how often they picked up food. Additionally, an analytics dashboard was developed to monitor clinical outcomes.

Initial work also included creating procedures for food truck deliveries, building a loading dock and creating parking that would be accessible for participants.

The program, funded through grants and philanthropy, highlights the new and innovative role supply chain can have in healthcare. Geisinger took a nontraditional hospital supply chain approach. The Fresh Food Farmacy took care outside the traditional hospital setting, relying on a community-based partner. The right culture and organization are needed to successfully implement such a program. In Geisinger's case, an emphasis on the patient experience rather than a fee-for-service mentality proved a good fit.

Impact of the Fresh Food Pharmacy

Within 18 months, patients enrolled in Geisinger's Fresh Food Pharmacy program saw their HbA1c levels decrease by 2 points, resulting in a 40% decreased risk of death or serious complications. This HbA1c reduction translated to an annual savings of between \$16,000 and \$24,000 per patient — a significant ROI when compared to the \$3,500-\$4,000 that the program spent to feed a family of four annually and provide education.

Other patient outcomes included:

- Improved clinical measures, including 10%-19% average decreases in cholesterol, blood glucose and triglycerides
- Greater likelihood versus non-enrollees to get other preventive screenings and embrace other health and wellness programming (e.g., 16% increase in annual eye exams, 7% increase in mammogram exams)
- 27% lower rate in emergency room visits and 19% lower rate of primary care physician visits versus non-enrollees

Endnotes

¹ "1 in 3 Americans Will Have Diabetes by 2050, CDC Says," Live Science.

² Cardiovascular Diseases (CVDs) Fact Sheet, World Health Organization.

³ "Food Insecurity, Chronic Disease, and Health Among Working-Age Adults," United States Department of Agriculture.



Geisinger's Fresh Food Pharmacy program was the 2019 Gartner Healthcare Supply Chainnovator Award Winner among healthcare providers.

Gartner support for managing healthcare supply chains

Healthcare supply chains are under pressure to drive down costs because of digital business, shifting customer needs and new competition. But recent disruption (e.g., manufacturer consolidation, climate events, economic and political upheaval) makes achieving cost efficiency in the healthcare supply chain difficult. Disruption forces IDNs to be reactive to back orders and recalls of essential medical products. This increases the total healthcare supply chain cost to serve, which already averages 37.3% of the total cost of patient care. To succeed amid disruption, the healthcare supply chain must invest in longer-term solutions that provide business continuity while maintaining profitability.

Increasingly, the CEO relies on the chief supply chain officer to solve problems in the healthcare supply chain so that the IDN can focus on providing quality patient care at sustainable costs. The best chief supply chain officers are ready to not only respond to change, but to anticipate it. To build resilience into the healthcare supply chain, employ preventive measures such as improved data analytics, external intelligence and supplier visibility.

Gartner insights, advice, data and tools help chief supply chain officers build a resilient healthcare supply chain. Through resilience, you can improve patient outcomes and control healthcare supply chain costs. Learn more on gartner.com.



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