CUSTOMER INNOVATION SPOTLIGHT

Stillwater Medical Center Tackles Medication Adherence For Patients With Diabetes

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Applying Medication History Data to Develop Patient Intervention Strategies

High Prescription Abandonment Rates Establish a Baseline for Improving Adherence

Knowing that medication therapies are instrumental in preventing complications and achieving positive patient outcomes, Stillwater Medical Center embarked on an initiative to improve medication adherence among its patients with diabetes and avoid unnecessary readmissions. But first, the organization needed to gain insight on medication usage and establish a baseline of adherence patterns among this patient population. Based on that data, the medical center will then develop strategies to identify at-risk patients who would benefit from interventions to improve adherence rates.

This challenge isn't unique to Oklahoma. In fact, diabetes is one of the most common chronic health conditions impacting Americans today. About 37.3 million people—or 11.3% of the U.S. population—had diabetes (diagnosed or undiagnosed) in 2019[1] and these rates continue to rise. While medication non-adherence is a challenge in treating many conditions, it is particularly troubling among diabetes patients because drug formularies change frequently, varying schools of thought define "optimal therapy," and providers can choose from hundreds of combinations of oral anti-diabetic therapies. Insulin therapy and medications such as metformin, sulfonylureas, and thiazolidinediones are common treatments, but at the one-year point, adherence to non-insulin medications is less than 80% and then drops precipitously.[2]

Stillwater Medical

Stillwater, OK | 117 beds | EHR: MEDITECH

About Stillwater Medical Center

Stillwater Medical Center is a not-for-profit, acute care hospital serving patients in a six-county area in central Oklahoma. The system employs nearly 2,000 staff members, including more than 150 physicians and advanced practice providers representing more than 40 specialties. For seven consecutive years, Modern Healthcare named the medical center one of the 100 Best Places to work in healthcare. The system also consistently receives high patient and employee satisfaction scores.

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Cost is the primary reason patients don't take their medicine as prescribed. The overall prescription abandonment rate increases nearly seven-fold from 4% for diabetes medications that cost patients $30 or less, to 27% for those that cost more than $150.[3] In addition, overall adherence rates decline as patients with diabetes are prescribed more medications.[4]

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Elizabeth Wilbourn, RN, BSN, Care Manager
Stillwater Medical Center

Phase 1: A 3-Step Process to Gather and Validate Patient Data

To set benchmarks and determine where to focus interventions that could improve overall medication adherence for patients with diabetes, the Stillwater Medical Center team launched a three-step approach.

Step 1: Closely Monitor Patients With High Hemoglobin (HbA1c) Levels

The first step was to identify patients with HbA1c, or blood glucose, levels of 6.5% or higher, as well as patients who had prescriptions to treat diabetes but had missing HbA1c values in their record. Once these patients' demographics were collected, the team analyzed the following metrics at the population level:

- Prescription abandonment, which was defined as not filling a new prescription
- Medication adherence measured by proportion of days covered (PDC), which was defined as the percentage of days that an individual had access to medication during a specified time period based on fill dates and days' supply

Step 2: Assign Care Managers to Specific Providers

Next, the team organized patients into groups based on their primary care provider. This would allow the small staff of Care Managers to deliver medication management services efficiently while keeping close tabs on every patient.

Step 3: Identify High-Risk Patients for Interventions

The medical center collaborated with DrFirst's Applied Clinical Research team to gather and analyze medication history data. Using DrFirst's MedHx™ PRM (Population Risk Management), they measured baseline levels of prescription abandonment based on comprehensive medication history data from local and national sources. With MedHx PRM in conjunction with the hospital's MEDITECH EHR, the team identified high-risk patients at scale and facilitated clinical interventions and discussions with patients who weren't filling their prescriptions on a timely basis.

The High Cost of Medication Non-Adherence

- Medication non-adherence costs the U.S. healthcare system $290 billion per year.[5]
- Up to 25% of all admissions to hospitals and long-term care facilities are due to medication non-adherence.[6]
- Diabetic patients who are non-adherent to their medications are more likely to be hospitalized and have higher mortality rates.[7]
- In the U.S., total economic cost of diabetes care was $327 billion in 2017 and accounted for 24% of all healthcare dollars.[8]
- Adherence to diabetes medications can save over $5,000 in total costs from all causes per patient per year.[9]

Initial Results From Phase 1: Identifying the Problem

Based on data spanning five years from June 2017 to June 2022, Stillwater Medical Center and DrFirst measured prescription abandonment and medication adherence rates for 1,013 patients with diabetes. When medications were broken down by drug class, first-fill abandonment for all maintenance prescriptions was 57% over the five-year period. Abandonment was slightly lower at 56% for diabetes medications and decreased to 49% for medications used to treat diseases that commonly co-occur with diabetes.

After running PDC analyses, the team also found medication adherence for these patients was 68% for maintenance medications and 72% for both diabetes medications and medications that treat co-morbid diseases.

When comparing these results to statistics that measure prescription abandonment and adherence nationwide, Stillwater Medical Center identified that the primary goal for Phase 2 of the initiative should be to improve patients' first-fill rates. The team will also work to improve the rates at which patients continue filling their prescriptions, have their medication dosages adjusted as needed, or have their therapies updated if necessary.

By monitoring the first fill and ongoing fills of medications—especially those to control blood glucose levels, which are critically important to manage symptoms and complications from diabetes—the Stillwater team validated the high abandonment of diabetes prescriptions among its patient population.

"If patients don't take their diabetes medicine as prescribed, they can experience serious—even deadly—outcomes," said Elizabeth Wilbourn, RN, BSN, Care Manager at Stillwater Medical Center. "We know that the cost of care and making needed lifestyle changes can make it hard for some patients. With MedHx PRM, our care managers can identify adherence issues among high-risk patients and intervene with education and changes to help patients get the best effect from these lifesaving drugs."

Next Steps for Phase 2

In Phase 2 of this initiative, the team will rely on the information gathered in Phase 1 to prioritize interventions based on individual reasons for non-adherence and formulate a treatment plan with patients to improve compliance. Care Managers are then empowered to intervene regarding specific medications a patient may be struggling with, whether the issue is cost, access, coverage status, dosage complexity, side effects, or another issue.

For more on population risk management, see **www.drfirst.com/prm**

Sources:

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