Care Transitions Improvements Reduces 30-Day All-Cause Readmissions Saving Nearly $2 Million

HEALTHCARE ORGANIZATION

Academic Medical Center

PRODUCTS

- Health Catalyst® Analytics Platform and broad suite of analytics applications
- Readmission Explorer

EXECUTIVE SUMMARY

Researchers estimate that in just one year, $25 to $45 billion is spent on avoidable complications and unnecessary hospital readmissions, the result of inadequate care coordination and insufficient management of care transitions.

While increasing its efforts to reduce its hospital readmission rate, the University of Texas Medical Branch (UTMB) discovered that it lacked standard discharge processes to address transitions of care, leading to a higher than desired 30-day readmission rate. To address this problem, UTMB implemented several care coordination programs, and leveraged its analytics platform and analytics applications to improve the accuracy and timeliness of data for informing decision making and monitoring performance.

This combination of approaches proved successful, resulting in:

- 14.5 percent relative reduction in 30-day all-cause readmission rate.
- $1.9 million in cost avoidance, the result of a reduction in 30-day all-cause readmission rate.

HOSPITAL READMISSIONS

Hospital readmissions are costly and can have negative consequences for patients. Readmissions totaled $7 billion in aggregate hospital costs for four high-volume conditions: acute myocardial infarction (AMI), heart failure (HF), chronic obstructive pulmonary disease (COPD), and pneumonia.[1]

Inadequate care coordination, including insufficiently managing care transitions, has been estimated to account for $25 to $45 billion in wasteful spending through avoidable complications and unnecessary hospital readmissions.[2] To reduce readmission rates, hospitals must improve the effectiveness of transitions of care, including addressing breakdowns in communication, and improving patient education and clinician accountability.[3]

> Using teach back and disease-specific patient education has made a real difference in the patient's understanding of their care and has improved patient satisfaction with nursing and physician communication.
>
> Brianna Salinas, MSN, RN, CNL
> Patient Care Facilitator

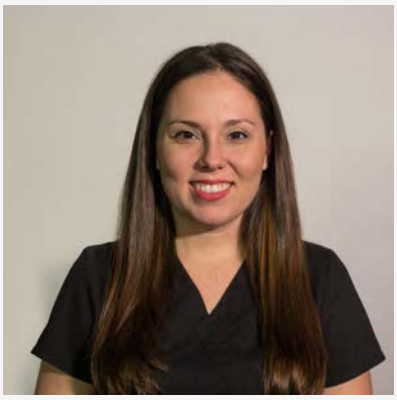
UTMB has a long history of advancing health sciences education, research, and patient care. It was the first academic health center in Texas and is home to the state's first schools of medicine, nursing, and allied health sciences. For 125 years, the university has maintained a forward-thinking spirit that has enabled it to serve its students, its patients, and people in Texas and beyond in innovative ways. In keeping with this focus, UTMB searched for ways to improve care for its patients by reducing hospital readmission rates.

OVERCOMING A LACK OF CONSISTENCY AND TRANSPARENCY

UTMB recognized that it had a higher than desired 30-day readmission rate that was most likely a result of its lack of standard processes for discharge and transitions of care from hospital to home. Additionally, the organization faced several challenges in lowering readmission rates that were related to information and care coordination.

For instance, UTMB lacked the necessary data to be able to identify the patients at highest risk for readmission, nor could it pinpoint the factors contributing to readmission. Patient education materials were also not standardized, resulting in variation in the information the patient received—no clear processes were in place to ensure the patient understood the materials offered. Patients were sometimes overwhelmed with complex discharge instructions, leading to medication mismanagement or an unclear understanding of what signs and symptoms indicated that they should seek care from their healthcare provider. The process for scheduling a hospital follow-up appointment varied by care unit, resulting in inconsistent discharge follow-up appointments for patients. All of these factors made it difficult for patients to do the things necessary to help themselves recover and avoid the need for additional healthcare interventions.

For the hospital and providers, obtaining accurate data on readmission rates required multiple steps. This complexity delayed the availability of data by 90 days, negatively impacting UTMB's ability to use this information to identify potential issues and proactively make improvements.



> Having real-time information has given us the opportunity to track progress and help us be more accountable to confirming that the patient has a follow-up appointment that meets their needs.
>
> Katie Davis, BSN, RN-BC
> Nursing Supervisor

DATA-DRIVEN, COLLABORATIVE APPROACH TO ENHANCING CARE DELIVERY

After identifying the barriers, it faced in attempting to reduce readmissions, UTMB determined it needed to standardize its discharge processes, address transitions of care, improve access to the data and analytics required to identify opportunities for improvement, and improve the ability to monitor its effectiveness in reducing unnecessary readmissions.

CARE collaborative standardizes processes and improves care transitions

UTMB established the CARE (Controlling Avoidable Readmissions Effectively) collaborative to reduce unnecessary hospital readmissions through coordination of care, improved access to primary care, behavioral healthcare, and specialty care, and improved utilization of standard processes and technology.

The multidisciplinary CARE collaborative includes a physician champion and key stakeholder participation from nurse leaders, physicians, patient care facilitators, case managers, and social workers. This group meets monthly to confirm project alignment and support, ensuring communication of project priorities, activities, and progress toward the goal of reduced readmissions. Through CARE, UTMB established standard processes for documenting patient complexity and co-morbid diagnoses, thus improving the accuracy of clinical documentation, and better communicating the patient's medical needs.

UTMB also designed and implemented an evidence-based process for managing care transitions from the hospital to home using Project BOOST (Better Outcomes for Older Adults through Safer Transitions)—a set of interventions developed by the Society of Hospital Medicine. BOOST includes standardized tools to identify high-risk patients, educate them on their conditions and possible side effects of medication, schedule follow-up appointments, and perform medication reconciliation at discharge to make certain that drugs prescribed at discharge don't harmfully interact with previously prescribed drugs.[4]

To reduce readmissions, it is important to take a multidisciplinary approach and include the patient. We all need to be on the same page and understand the end goal.

Ashleigh Thomas, MSN, RN, OCN
Nurse Manager

Patient facilitators support care transitions

Understanding the importance of care coordination, UTMB developed the role of patient care facilitators, who coordinate the care of patients at high risk for readmission.

Discharge planning begins shortly after the patient is admitted to the hospital, using the 8P risk assessment screening tool to identify which patients have the highest risk for readmission. The 8P risk assessment is completed on the first day of admission for each new patient and is documented in the EMR. Patients with three or more of the following indicators are identified as high risk for readmission:

- Polypharmacy, defined as taking more than ten medications.
- Psychological problems, such as depression.
- Principle diagnosis of chronic conditions such as cancer, previous stroke, HF, or diabetes.
- Physical limitations, such as malnutrition or deconditioning.
- Poor health literacy, including language barriers or poor reading skills.
- Patient support is lacking, such as being homeless, social isolation, or having no primary care provider.
- Prior hospitalization, defined as non-elective admission within the past six months.
- Potential for palliative care, as indicated by advanced or progressive, serious illness.

Patient care facilitators receive a list of patients who are at high risk for readmission each day, as well as a list of patients who have been readmitted within 30-days of discharge. This list is used for intensive rounding and case management while the patient is in the hospital, and to prioritize follow-up phone calls after discharge.

The patient care facilitators actively manage patients who are screened as high risk, entering a customizable care plan into the EMR, incorporating evidence-based practice standards. The standardized interventions include:

- Early identification of a primary caregiver, if not the patient, for inclusion in education sessions and discharge planning discussions.
- Evidence-based teaching materials regarding disease-specific chronic conditions such as: diabetes, COPD, HF, or end-stage renal disease. Available within the EMR, the education

> There is now more collaboration among providers, and it has built bridges between in-patient and out-patient services, as well as across specialties.
>
> Katie Davis, BSN, RN-BC
> Nursing Supervisor

materials are introduced to the patient within 24-hours of admission. These materials use the stoplight concept, providing both a visual and written reference of when patients should contact their providers following discharge from the hospital (green: maintain current plan, yellow: caution, red: seek care as soon as possible). Patients are also provided an action plan that outlines what to do and who to contact in the event of worsening or new symptoms.

- Use of the teach-back method during all patient education interventions to validate patient or caregiver understanding of complex medical information and plan.
- Medication reconciliation upon admission and prior to discharge by a clinical pharmacist, who focuses on eliminating any unnecessary medications and simplifying medication scheduling to improve adherence.
- Use of a standardized electronic discharge form within the EMR. Providers use the form to outline the discharge follow-up plan including the timing of the first appointment and whether a specialist or primary care is appropriate.
- Linking community resources or home health services to those patients with social isolation or limited resources.

Recognizing the importance of confirming the patient's understanding of the treatment plan and the effectiveness of the teach-back method on helping improve transitions of care for patients, educational offerings about the teach-back method are provided hospital-wide for providers, nurses, and care managers.

Rather than making follow-up appointments at the time of discharge, follow-up appointments are made using a centralized service within 72-hours after discharge, allowing the patient to go home and get settled prior to making the appointment. This limits the need to reschedule or inadvertently scheduling overlapping appointments and ensures the patient is scheduled with the appropriate service (primary care, behavioral health care, or specialty care).

Enhanced data for better decisions

To improve the accuracy and timeliness of data for informing decision making and monitoring performance, UTMB made the decision to use the Health Catalyst® Analytics Platform and broad suite of analytics applications, implementing the Readmission Explorer analytics application (see Figure 1).

FIGURE 1: READMISSION EXPLORER APPLICATION SAMPLE VISUALIZATION.

1. Filter by discharge date.
2. Filter by admission diagnosis.
3. Filter by unit, provider, intervention.
4. Readmission trends.

Figure 1: Readmission Explorer application sample visualization

The analytics application provides UTMB visibility into a broad spectrum of readmission metrics for all-cause readmissions, unplanned readmissions, and emergency department visits. This information is updated daily, providing UTMB ready access to meaningful, actionable data.

Using the analytics application, UTMB can view data by patient demographics, discharge status, provider, and other metrics. UTMB uses the analytics application to monitor trends associated with readmissions, identify normal or special cause variation, and to pinpoint areas where transitions of care could be further improved, and unnecessary readmissions further reduced.

For example, when the data indicated that HF patients were one of the main sources for readmissions, UTMB developed collaborative relationships with outpatient care management services to develop a focused plan to facilitate smooth transitions for patients with a HF diagnosis. Supported by findings of a root cause analysis for the causes of readmissions, outpatient services provided to HF patients at high risk for readmission include transition care calls, home visits, assistance obtaining needed supplies, and continued care management services as appropriate.

The data obtained from the analytics application is also included on the organization's balanced scorecard, used to communicate progress on 30-day all-cause readmission rate reductions, further refining processes and continuing to spread best practices across the system. In addition to using data and analytics, the CARE

collaborative conducts detailed weekly root cause analyses to identify reasons for readmissions, developing action plans to address the reasons for readmission events.

RESULTS

UTMB implemented a comprehensive, evidence-based, multidisciplinary approach to improve transitions of care, introduced a new role to facilitate effective coordination of care for patients at risk for readmission, and utilized analytics to better inform timely decisions. Combined, these changes enhanced the transitions process and improved both the patient experience and outcomes. Using this evidence-based, data-driven approach, UTMB has made substantial improvements in the transitions of care processes, leading to impressive results:

- 14.5 percent relative reduction in 30-day all-cause readmission rate.
- $1.9 million in cost avoidance, the result of a reduction in 30-day all-cause readmission rate.

WHAT'S NEXT

Building on its success, UTMB continues to refine its care transitions program. Future work includes collaborating with long-term care, skilled nursing facilities, and home health providers to further refine outpatient transitions, reducing unnecessary, costly readmissions, providing the necessary care in the most appropriate care setting.

REFERENCES

1. Fingar, K. & Washington, R. (2015). Trends in hospital readmissions for four high-volume conditions, 2009-2013, HCUP statistical brief #196. *Agency for Healthcare Research and Quality.* Retrieved from https://www.hcup-us.ahrq.gov/reports/statbriefs/sb196-Readmissions-Trends-High-Volume-Conditions.pdf

2. Health Affairs Health Policy Brief. (2012). *Improving care transitions.* Retrieved from https://www.healthaffairs.org/action/showDoPubSecure?doi=10.1377%2Fhpb2 0120913.327236&format=full

3. The Joint Commission. (2012). *Transitions of care: The need for a more effective approach to continuing patient care.* Retrieved from https://www.jointcommission.org/assets/1/18/Hot_Topics_Transitions_of_Care.pdf

4. Society of Hospital Medicine. (n.d.). *Advancing successful care transitions to improve outcomes, Why is it important to improve care transitions?* Retrieved from https://www.hospitalmedicine.org/clinical-topics/care-transitions/

ABOUT HEALTH CATALYST

Health Catalyst is a next-generation data, analytics, and decision support company committed to being a catalyst for massive, sustained improvements in healthcare outcomes. We are the leaders in a new era of advanced predictive analytics for population health and value-based care. with a suite of machine learning-driven solutions, decades of outcomes-improvement expertise, and an unparalleled ability to integrate data from across the healthcare ecosystem. Our proven data warehousing and analytics platform helps improve quality, add efficiency and lower costs in support of more than 85 million patients and growing, ranging from the largest US health system to forward-thinking physician practices. Our technology and professional services can help you keep patients engaged and healthy in their homes and workplaces, and we can help you optimize care delivery to those patients when it becomes necessary. We are grateful to be recognized by Fortune, Gallup, Glassdoor, Modern Healthcare and a host of others as a Best Place to Work in technology and healthcare.

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