How a Medication-to-Bedside Delivery Program Impacts 30-Day Readmission Rates

Marco D'Angelo, BS Pharm, BCACP, *Jacobs Medical Center Discharge Pharmacy Manager, University of California San Diego Health, La Jolla, Calif. madangelo@health.ucsd.edu 858-249-2572*

Trina Huynh, PharmD, BCPS, *Transitions of Care Coordinator, PGY2 Internal Medicine Pharmacy Residency Director, UC San Diego Health, La Jolla, Calif. trhuynh@health.ucsd.edu 858-249-5658*

Adriann Deguzman, PharmD, BCGP, *Hillcrest Medical Center Pharmacy Manager, University of California San Diego Health, San Diego, Calif. addeguzman@health.ucsd.edu 619-543-2125*

Learning Objectives

- Explain the value of Meds-to-Beds and how it can help reduce 30-day readmission rates.
- Discuss how expansion of the program can also increase patient satisfaction.

Overview

Patient populations at elevated risk of readmission do not always have the correct medications at time of discharge to continue their therapies, which can result in negative patient outcomes and lost revenue opportunities. Meds-to-Beds programs deliver discharge medications to the patient's bedside, eliminating a trip to a pharmacy and ensuring that the patient has the medications needed for a successful care transition after discharge. The Meds-to-Beds program has led to improvements in medical center readmission rates and patient experience.

Background

UC San Diego Health can assist patients at discharge with its onsite discharge pharmacies. The pharmacies are at the two campuses and once patients are discharged; medications are picked up by the patients/caregivers at the pharmacy counter. This service ensured that patients leave the hospital with the necessary medications as access and supply are addressed timelier than outside retail pharmacies. There were some limitations to this process as it can create patient flow bottlenecks through the pharmacies as the health system expands and increases bed capacity.

In 2015, UC San Diego Health Department of Pharmacy launched a medication to bedside (Med-to-Bed) delivery service in anticipation of further expansion of the health system and to provide a more convenient service to the patients. The service was piloted on one nursing unit, then expanded to the entire system and currently delivers to all patients discharged from the hospital. During the maturation of the program, patient feedback collected from Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey showed a positive increase in patients' overall understanding of the medications. The program also showed a reduction in readmission rates across all populations and with stratification of the LACE+ score.

Intervention Detail

During a LEAN 3P event to evaluate readmission rates, it was identified that further expansion of the Med-to-Bed program was needed to address medication access and patient overall adherence. The Med-to-Bed program capture rate since 2018 had remained stagnate at 40% with readmission rates at 15%. Gap analysis determined that efforts to improve workflow centered on speed of delivery and optimization of workflow was necessary.

Due to the COVID pandemic, the Med-to-Bed program moved counseling in person to telephonic counseling which improved efficiency and delivery times. However, the improvement was still limited by available personnel; thus, executive approval was obtained to expand the staffing for the program. In 2021, additional Full Time Equivalents (FTEs) were hired to expand the reach for the Med-to-Bed program to 100% of admissions in the hospital. To evaluate the support of the expansion, readmission rate for all patients sent home were analyzed for impact.

Med to Bed: Readmission Rates for Jan to Sept 2022

Excludes newborns and AMA dispositions	Overall Readmit Rates	M2B Readmit Rates	No M2B Readmit Rates	Relative Reduction Impact (RRI)
All discharges (N=24466)	14%	13%	14%	7%
Home Dispositions (n=20807)	14%	13%	15%	13%
Rx Risk Score ≤7 (n=19785)	13%	12%	14%	14%
Rx Risk Score >7 (n=1012)	29%	30%	27%	
LACE < 50 (n=8142)	6%	5%	7%	29%
LACE 50-70 (n=7278)	15%	14%	15%	7%
LACE >70 (n=5278)	26%	26%	25%	

TOC med rec, counseling efforts 23% vs 29% (**21% RRI**) ***n is small*

UC San Diego Health

Med to Bed: Readmission Rates for Jan to Sept 2022

Excludes newborns and AMA dispositions	Overall Readmit Rates	M2B Readmit Rates	No M2B Readmit Rates	Relative Reduction Impact (RRI)
All discharges (N=24466)	14%	13%	14%	7%

Impact / Outcome from Expansion		**Impact / Outcome - Annualized**	
Unplanned Readmissions Rate		Unplanned Readmissions Rate	
Baseline - w/o M2B*	14.0%	Baseline - w/o M2B*	14.0%
Actual - w/ M2B**	13.0%	Actual - w/ M2B**	13.0%
Improvement	1.0%	Improvement	1.0%
Impact		**Impact**	
Patient Volume	11,968	Patient Volume (80% of all discharges)	26,483
Avoided Readmissions (Annualized)	117	Avoided Readmissions (Annualized)	260
Readmit ALOS (in days)	8.1	Readmit ALOS (in days)	8.1
Bed Days Saved	950	Bed Days Saved per Year	2,102
ADC Saved per Day	3.5	ADC Saved per Day	5.8

UC San Diego Health

Results

With the expansion of the Med-to-Bed Program, prescription and capture rate of the discharge pharmacy increased. In 2018, the pharmacy was delivering approximately 42% of prescriptions and by the end of 2022 (6 months post intervention) that percentage increased to 86%. In addition, Med-to-bed pharmacist patient education had profound impact on increasing percentile rankings in HCAHPS question for patient understanding the purpose of medication.

Readmission rates were analyzed from January to September 2022. When reviewing all discharges during this time period, the overall 30-day readmission rate decreased for patients who received Med-to-Bed compared to patients who have not. This trend was further decreased when the population was analyzed for only patients who went home (excluding patients transferred to long-term care facilities, skilled nursing homes). Risk stratification utilizing the LACE+ and Rx Risk Score also showed improvement in 30-day readmission rates for patients with moderate risk. Internal data has demonstrated that higher LACE+ (score greater than 70) and higher Rx Risk Score (greater than 7) are non-modifiable patient population so it's not surprising to see no different in the data; however, with the modifiable patients, Med-to-Bed decrease readmission rates.

Conclusion

The Med-to-Bed program reinforces a positive patient experience during the last steps of discharge. Our program reaches 100% hospital floors, and we deliver 86% of Med-to-Bed eligible prescriptions. Teamwork and the opportunity to collaborate with all nursing staff and transitions of care pharmacists to provide comprehensive care while also reducing readmission rates. Estimated annualized avoidance of 260 readmissions and 2,102 bed days saved per year.

No one in a position to control the content of this educational activity has relevant financial relationships with ineligible companies.