

Reduction of 30 day hospital readmissions after patient-centric telephonic medication therapy management (MTM) services

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Background

- ❖ The University of Florida MTM Communication and Care Center provides telephonic MTM services to transitions of care patients following the 5 core elements of MTM services model framework.¹ The MTM service includes a comprehensive medication review (CMR), personalized medication list (PML), medication action plan (MAP), documentation of the services, and provider intervention.
- ❖ The Hospital Readmission Reduction program requires CMS to reduce payments to hospitals with excess readmissions, defined as readmission within 30 days of a previous discharge.²
- ❖ Health plans aim to decrease hospitalizations with a goal of improved patient outcomes and a reduction in medical costs.

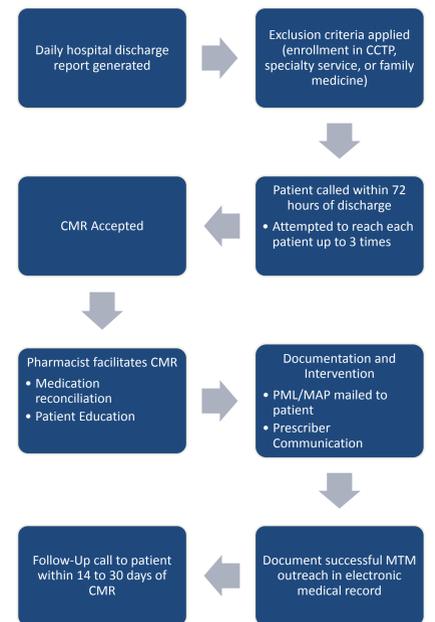
Objective

- ❖ To evaluate the effectiveness of pharmacist-facilitated telephonic MTM services on reducing hospital readmissions from an academic medical facility

Methods

- ❖ A retrospective chart review was performed on 314 patients who participated in patient-centric telephonic follow-up services after hospital discharge during a UFHealth transitions of care pilot project from 2/23/2014 to 7/4/2014.
- ❖ Eligible patients were discharged to home from internal medicine or hospitalist services with 4 or more medications. Exclusion criteria included those patients who were on the family medicine or specialty service, enrolled in the Community-based Care Transitions Program (CCTP), uninsured, discharged to skilled nursing, dual eligible for Medicare and Medicaid, or had an admission secondary to cancer or radiation therapy.
- ❖ Participating patients were offered a pharmacist-facilitated comprehensive medication review (CMR) within 72 hours of hospital discharge, and provided telephonic follow-up 14 to 30 days after provision of MTM services.
- ❖ Statistical analysis for the primary outcome was done via time series analysis on 267 charts after further exclusion criteria were applied to the patient population.
- ❖ Secondary outcomes were manually categorized and totaled.

Workflow and Process Model



Results

Baseline Characteristics of Treatment Group

| Baseline Demographics | N = 314 |
|-------------------------------|------------|
| Age (average) | 57.55 |
| Gender (female), no. (%) | 188 (59.9) |
| Length of Stay (average days) | 4.98 |

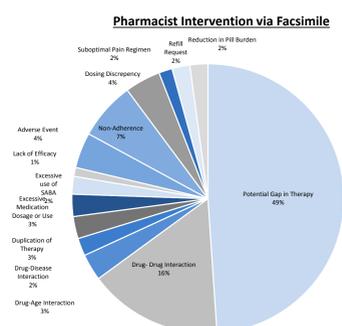
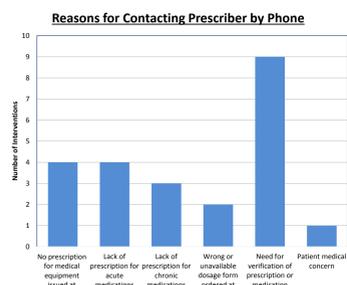
| Reported Medications | Total # (mean) |
|----------------------------------|----------------|
| Number of Rx Medications on EMR | 2824 (8.99) |
| Number of OTC Medications on EMR | 637 (2.03) |
| Number of Rx Medications on CMR | 2789 (8.88) |
| Number of OTC Medications on CMR | 728 (2.32) |

Primary Outcome: 30 day, all cause readmission

| Group | Quarter | N | % Discharges with 30 Day Readmission |
|---------------|---------|-----|--------------------------------------|
| Treatment-Yes | 9 | 190 | 14.7 |
| Treatment-No | 9 | 757 | 24.3 |
| Treatment-Yes | 10 | 77 | 22.1 |
| Treatment-No | 10 | 388 | 22.9 |

| Comparison | Odds Ratio | Confidence Interval |
|------------|------------|---------------------|
| Group | 1.00 | (0.67, 1.50) |
| Quarter | 1.04 | (0.68, 1.60) |

Secondary Outcome: Pharmacist identified interventions related to drug therapy problems



Secondary Outcome: Identified discrepancies between patient reported medication list and hospital discharge medication list documented in electronic medical record (EMR)

| Discrepancy Identified | Total No. (%) |
|--|---------------|
| Omitted Rx from EMR | 207 (25.2) |
| Omitted OTC from EMR | 189 (23.0) |
| Patient not taking Rx listed on EMR | 216 (26.2) |
| Patient not taking OTC listed on EMR | 88 (10.7) |
| Dosage Discrepancy | 50 (6.1) |
| Frequency Discrepancy | 19 (2.3) |
| Medication Duplication on EMR | 33 (4.0) |
| Lack of directions or dosage on EMR for a medication | 18 (2.2) |
| Medication formulation discrepancy | 3 (0.4) |

Discussion

- ❖ UFHealth crude readmission rates during quarters 9 and 10 were increased compared to the previous 8 quarters without clear explanation
- ❖ For the primary outcome, both quarters 9 (9.6 % decrease compared to control) and 10 (0.8% decrease compared to control) favored treatment per admission.
- ❖ Limitations
 - ❖ Exclusion criteria
 - ❖ Patients predisposed to readmission due to complex disease states (Ex. Sickle cell disease, CF) were included in study
 - ❖ Patient population did not exclude patients with dementia/cognitive impairment, home care, or caregivers
 - ❖ Health literacy was not evaluated
 - ❖ Influence of Community-based Care Transitions Program (CCTP) on our patient population
 - ❖ Patients who were enrolled in a similar program geared at geriatric patients were excluded from this pilot study

Conclusion

- ❖ Pharmacist facilitated telephonic MTM services did not demonstrate a relationship between exposure to CMR and reduced readmission rate.
 - ❖ May be a consequence of reasons including but not limited to:
 1. Inadequate inclusion and/or exclusion criteria
 2. Fluctuations of the data during periods 9 and 10
 3. Lack of effectiveness of the CMR
- ❖ Pharmacists identified and intervened on clinical interventions via prescriber fax and prescriber phone call in patients who received telephonic MTM service.
 - ❖ 92 gaps in therapy identified (49% of interventions via facsimile)
 - ❖ 823 discrepancies identified between the medication lists
 - ❖ 78.34% of CMRs completed had at least 1 discrepancy

References

1. American Pharmacist Association, National Association of Chain Drug Stores Foundation. Medication Therapy Management in Pharmacy Practice: Core Elements of an MTM Service Model Version 2: March 2008. http://www.pharmacist.com/sites/default/files/files/core_elements_of_an_mtm_practice.pdf
2. Centers for Medicare and Medicaid Services. Readmissions Reduction Program. August 2014. <http://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/AcuteInpatientPPS/Readmissions-Reduction-Program.html>.