



Hospital Readmissions Among Participants in Transitional Case Management (TCM) Program

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Announcement

- This study was accepted for publication in the AJMC.

Background

- Coaching patients during and after their hospital stays can reduce readmissions by as much as 50%.
- Thirteen percent of the readmissions were “potentially avoidable”.
- CMS recently added readmissions within 30 days to the list of Hospital Payment Monitoring Program (HPMP) risk areas.
- (Report on Medicare Compliance: *Volume 17, Number 24 • June 30, 2008*)

Possible contributing factors

- Fragmented care and payment systems
- Delayed or inadequate F/U after D/C
- Lack of medication reconciliation
- Lack of communication and coordination of care between IP and OP care providers

A Possible Solution

After Discharge:

A nurse coach helps patients transition back to the community and improve patient self-management

Areas of Impact

- Medication self-management
- Understanding of “red flags”
- F/U with Appropriate Providers
- Patient Activation and Empowerment

More Literature

- Product:
Medicare, Medicaid, Commercial
- Disease Specific:
CHF, orthopedic surgery
- Design: RCT, Intervention Evaluation (with or without control groups), meta-analysis

Why RCT?

- RCT: Gold proof but is it really gold?
- Business concerns
- Ethical concerns
- Design issues

Design Flaws

- Contamination of the control group
 - Time-to-engagement and time-to-measurement
 - Drop out or attrition (failure to engage)
- dissimilarities in both treatment and non-treatment groups

More Flaws

- Sample size considerations especially with subgroup analyses or multiple outcomes
- False negatives due to small numbers of multiple level stratification variables

And finally

- What is the research or business question?
Studies with different designs provide answers to different questions

A. Bradford Hill Criteria of Causal Association:

- **Temporal Sequence**
- Strength of association
- *Specificity* of association
- Consistency (reproducibility)
- Dose Response Relationship
- Plausibility
- Coherence

Definition

Transitional Case Management (TCM) is the collaborative process of evaluating and coordinating post-hospitalization needs for members identified as being at risk of re-hospitalization or as frequent users of high cost services.

Goal

The goal of Transitional Case Management is to proactively intervene so that members receive timely physician and home health services, medications, medical equipment, and other support as required to prevent re-hospitalization.

The Outreach Process

- The intervention is “outreach” which includes the evaluation and coordination of the member’s needs and services to prevent readmission.
 1. Three outreach call attempts are made within 3 days after discharge (first preferably within 1 day) and “Unable to Reach” letters are sent as applicable

TCM Outreach Process “continued”

2. During the outreach call the CM performs an assessment to disclose and close gaps for:

- Medications
- Follow-up appointments
- Caregiver availability
- Compliance and understanding of disease process

Study Purpose

To test the hypothesis that patients who participate in the Transitional Care Management program are less likely to have hospital readmissions after an initial inpatient stay. By understanding this relationship, we can demonstrate the value of the Transitional Care Management program.

Study Design

1. Retrospective cohort
2. Patients were included in the study if they had an initial hospitalization between April 1, 2007 and June 30, 2008.
3. Subsequent hospitalizations had to be within 2 -30 days of discharge
4. Only patients who were discharged home were included

A Must Have Study Requirement

To clearly estimate the impact of engagement in the TCM program on 30 day readmissions after discharge, TCM engagement (or no engagement) **MUST** have occurred during the same period of time and **MUST** precede the readmission (or no readmission).

Study Population

- Initial cohort 608,919, final cohort 10,258
- Exclusions included:
 1. Extreme age
 2. Behavioral health or pregnancy related admissions
 3. Less than 4 months continuous enrollment post discharge
 4. Patient was not discharged alive
 5. Participation in Complex Condition Case Management, or Disease Management programs within 3 months prior to initial inpatient stay
 6. Not meeting program eligibility; on the 'Do not call' list

Population Characteristics

	Participants	Non Participants
Avg. Age	50.1	49.6
Female%	48.8	49
Avg. Initial LOS*	5.1	5.9
ERG*	18	20

*statistically significant

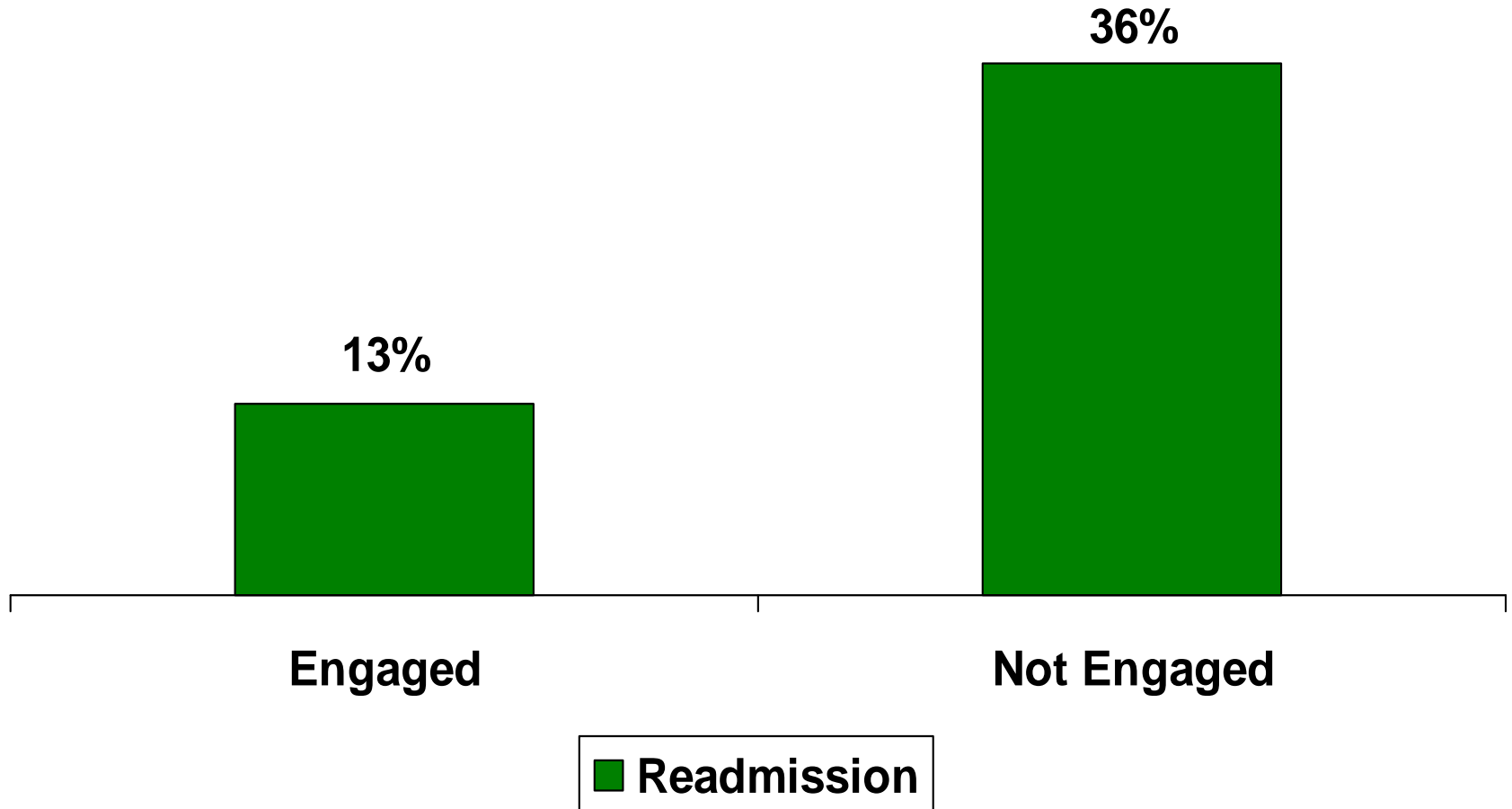
30-day readmission by engagement status

	Readmit	No Readmit
Engaged	1,136 (13%)	7,836 (87%)
Not Engaged	461 (36%)	825 (64%)

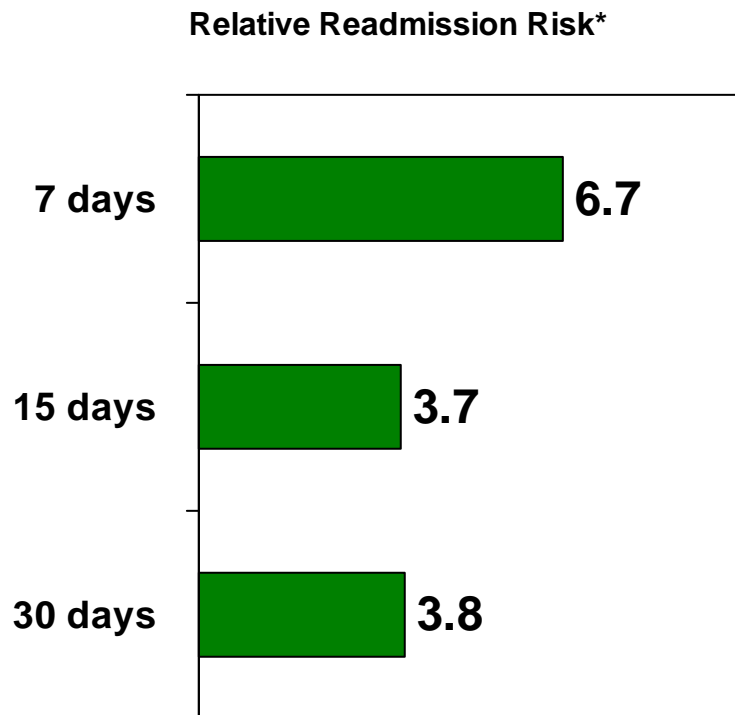
OR=0.26*

* significant at $p < .01$

30-day readmission by engagement status



Intervention Lag and Readmission Risk



- Within 7 days, NE individuals are almost **7 times** more likely to be readmitted than E
- Within 15 days, NE are almost **4 times** more likely to be readmitted than E
- Within 30 days, NE individuals are almost **4 times** more likely to be readmitted than E

* significant at $p < .01$

MLR

parameter	DF	Estimate	Wald x^2	Prob.> x^2
Intercept	1	-1.6207	517.5942	<.0001
Initial length of stay	1	0.0101	4.5599	0.0327
Circulatory	1	-0.0801	4.74430	0.0294
Digestive	1	0.1274	10.3805	0.0013
Musculoskeletal	1	-0.4735	103.7054	<.0001
TCM	1	-0.6244	344.9515	<.0001

TCM Study Summary

- Engagement in TCM was associated with decreased readmissions
- Engagement in TCM increased over time
- Engagement in TCM was the most significant predictor of readmission (TCM engagement was protective in Logistic Regression analysis)

Study features: Why this study is different

- First to establish cause and effect relationship between telephonic TCM and readmissions
- Commercial matched population
- Many factors affect the outcome of interest
- Statistical adjustment for confounders and effect modifiers

Future Research

- Perform sub-analysis to further understand potential reasons for non-engagement and opportunities for improvement
- Determine engagement (or non engagement) in the TCM program for those with surgical versus medical discharge diagnoses within each MDC
- Assess the impact of MDCs and leading related diagnoses on readmissions and TCM engagement