Exploring the Effect Of Pre-Scheduled TCM Outpatient Visits and Individualized Patient Education on Hospital Readmission Rates

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Introduction

In the United States, high hospital readmission rates are a national issue with over 1 billion dollars in medical care expenses and hospital penalties. To address this issue, the Transitional Care Management (TCM) was implemented in 2013 as part of the Affordable Care Act's plan to reduce overall Medicare spending. TCM aims to improve coordination of care with primary care physicians and decrease readmission rates, therefore decreasing health care costs.

Objective

The main purpose of this study is to show how scheduling a TCM outpatient visit with primary care provider prior to discharge would affect hospital readmission rates. Furthermore, this study will assess how improved TCM interventions affects readmission rates compared to current standard interventions at Morristown Family Medicine.

Methods

- A combined retrospective-prospective study with a sample size of 200 patients admitted to the Morristown Medical Center Family Medicine (MCCFM) inpatient team over a period of 10 months.
- Pre-intervention: 10/09/2021 to 01/09/2022
- Post-intervention: 01/10/2022 to 07/01/2022
- Inclusion criteria: patients over 18 years of age with a primary care physician (PCP) from either MMCFM practice or the Medical Institute of New Jersey (MINJ) clinic.

- Pre-intervention protocol: recommend discharged patients call their PCP's office to schedule a TCM appointment. For patients of MMCFM and MINJ, discharge information was sent to their offices.
- Intervention MMCFM (experimental group): schedule TCM visit at discharge, use standardized discharge template providing written education regarding medication changes, recommended specialist appointments, and the importance of the TCM visit.

- Intervention MINJ protocol (control group): use standardized discharge template, discharge information is routed to specific MINJ staff to schedule TCM appointments.
- Data collected: TCM visits scheduled at discharge or not, time discharge to TCM visit, use of standardized discharge template, TCM call within 2 business days of discharge, and completion of scheduled TCM visit within 7-14 days. Readmission rates were compared pre- and post-intervention.

Results

MMCFM	TCM Call	TCM Visit	Count TCM	30 Day ReAdmit	Rate
	Yes	No	20	4	8%
	Yes	Office	23	1	2%
	Yes	Virtual	3	2	4%
	No	No	4	0	0%
		Total	50	7	14%

	Readmission Total %
TCM visit (Any)	6%
No TCM Visit	8%

MINJ	TCM Call	TCM Visit	Count TCM	30 Day ReAdmit	Rate
	Yes	No	6	1	2%
	Yes	Office	16	0	0%
	Yes	Virtual	1	0	0%
	No	No	26	1	2%
	No	Office	1	0	0%
		Total	50	2	4%

	Readmission Total %
TCM visit (Any)	0%
No TCM Visit	4%

Table 1: *Pre-intervention Rate of Readmission*

MMCFM	TCM Call	TCM Scheduled	TCM Visit	Count TCM	30 Day ReAdmit	Rate
	Yes	Yes	Office	9	1	2%
	Yes	Yes	Office	27	1	2%
	Yes	Yes	Virtual	3	0	0%
	Yes	No (Home Care)		1	0	0%
	Yes	No	None	6	0	0%
	Yes	No	Office	8	3	5%
	Yes	No	Virtual	1	0	0%
	No	Yes	None	1	0	0%
	No	Yes	Office	1	0	0%
	No	No	None	8	2	3%
			Total	65	7	11%

	Readmission Total %
TCM visit (Any)	6%
No TCM Visit	5%

MINJ	TCM Call	TCM Scheduled	TCM Visit	Count TCM	30 Day ReAdmit	Rate
	Yes	Yes	None	1	0	0%
	Yes	Yes	Virtual	1	0	0%
	Yes	No	Office	1	0	0%
	Yes	No	Office	3	0	0%
	No	No	None	26	6	17%
	No	No	Office	3	1	0%
			Total	35	7	17%

	Readmission Total %
TCM visit (Any)	0%
No TCM Visit	17%

Table 2: *Post-intervention Rate of Readmission*

These tables categorize patient encounters by TCM calls, TCM visits made, and their respective rates of readmission within 30 days for the two groups.

Experimental group (MMCFM)'s readmission rates post-intervention for patients decreased from 14% to 11% (p=0.30), but the control group (MINJ)'s readmission rates significantly worsened from 4% to 17% (p<0.033).

Discussion

The results show that pre-scheduling TCM visits did not change 30-day readmission rates significantly. Some limitations may be due to human error but also due to an already robust TCM protocol in the experimental group (MMCFM). MMCFM already had dedicated staff members and protocol in place to make TCM phone calls and appointments even before the intervention occurred.

The data shows that post-intervention readmission rates significantly worsened four-fold in the control group (MINJ) (p<0.033), but this may be due to sample selection bias. One reviewer collected pre-intervention data chronologically, whereas the other reviewer collected post-intervention data with an emphasis on admission diagnoses of CHF and sepsis, which have higher rates of morbidity and mortality.

Pre- and post-intervention periods covered different months that correlate with different illnesses, such as flu and COVID in the winter months. For future research, we can compare interventions done within the same months to exclude confounding factors.

References

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