A Pilot Study of Nursing Home Residents' Transfers to the Acute Care Hospital: A Singapore Perspective

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INTRODUCTION

Nursing home residents are generally frail and have multiple chronic illnesses, making them utilize hospital services frequently. Hospitalizations are often necessary but a portion of them can be "potentially preventable" [1]. Reducing "preventable" hospitalizations could improve quality of life of residents, and reduce unnecessary healthcare costs.

AIM

This study identifies the profile of nursing home residents transferred to the acute care hospital and determines "preventable" hospital transfers.

METHODS

4 community-based nursing homes (NHs) in Singapore were recruited for this retrospective study over the period from January 2013 to December 2013. These NHs were chosen because of their existing partnership with the acute hospital and the aim of this collaboration was for the acute hospital to provide geriatric services to the NH residents. Data on acute care transfers were provided by the NHs and were retrospectively reviewed by 2 clinical representatives from the acute hospital. The proportion of the transfers were rated to be potentially "preventable" using the assessment tool adapted and modified from the INTERACT (Interventions to Reduce Acute Care Transfers) II study. A "potentially preventable" hospital transfer is one that may have been avoided if optimal management of an existing condition was available in the NH at an earlier stage [2]. These transfers were then compared to the non-potentially "preventable" transfers on demographic and clinical variables using univariate and multivariate analyses.

RESULTS & DISCUSSION

Demographics of hospital transfers in 2013

A total of 317 hospital transfers were studied. The average hospitalization rate was 14.5 per 10,000 resident days (Figure 1).

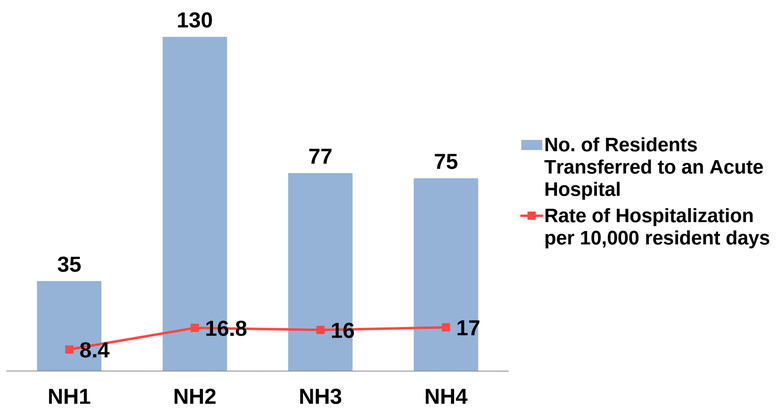

Figure 1: Nursing Home Transfers to an Acute Hospital in 2013

55% of the residents transferred were female. Majority were Chinese and the average age was 77 (range 38 to 104). 61% of the hospitalized cases required maximum assistance for their basic activities of daily living (Figure 2) while 84% did not have any advance care planning (ACP) discussion (Figure 3).

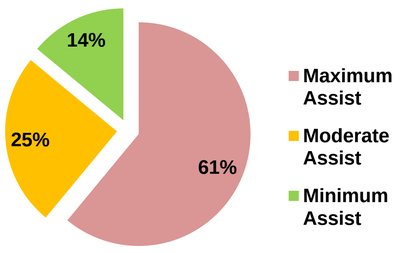

Figure 2: Category of Residents according to Basic Activity of Daily Living

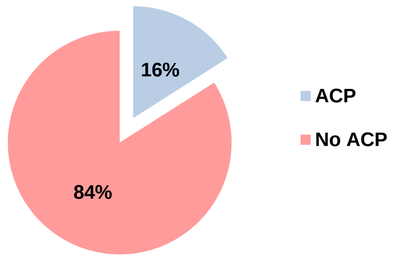

Figure 3: Percentage of Residents with Advance Care Planning

RESULTS (CONTINUED)

The conditions that put the residents at risk for hospitalization are shown in Figure 4. The common conditions were multiple co-morbidity and hospitalization within the last 6 months.

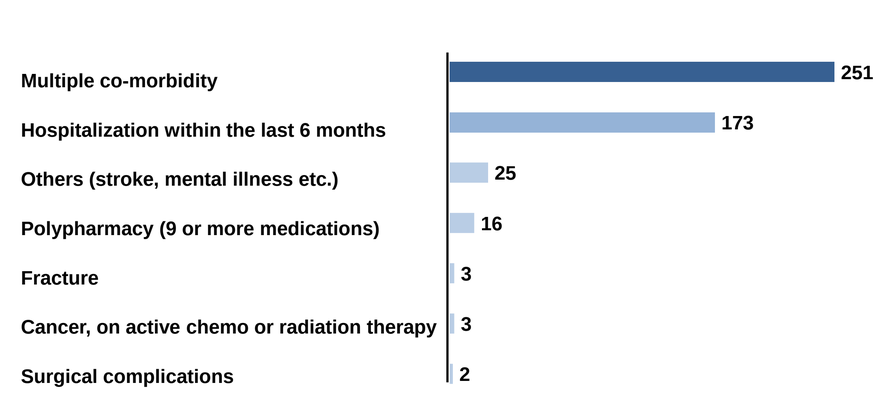

Figure 4: Conditions that Put Resident at Risk for Hospitalization

"Preventable" Transfers

9% of the transfers to the acute care hospitals were "preventable". 56% of these "preventable" transfers occurred after office hours. The reasons ascribed for the "preventable" hospitalizations are shown in Figure 5. The most common reason that led to a transfer which should have been "prevented" was a lack of an ACP discussion. An ACP discussion refers to a documented conversation regarding resident's and/or their family's healthcare preference, which also includes their preference for hospitalization.

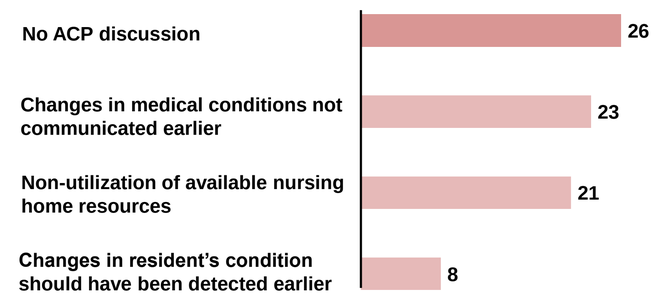

Figure 5: Reasons for "Preventable" Hospital Transfers

Multivariate Analysis

The factors which are significantly associated with "preventable" transfers to acute care hospital are no ACP discussion and female (Table 1). Out of the "preventable" transfers, the ratio of no ACP discussion to an ACP discussion is 2.96:1.

Table 1: Factors Associated with "Preventable" Transfers to the Acute Care Hospital

Factor	Odds Ratio	95% C.I.		P-Value
No ACP Discussion	2.96	1.25	7.02	0.014
Female	2.38	1.02	5.57	0.045

Adjusted for age, race, hospitalization within last 6 months, multiple comorbidity, functional status and polypharmacy.

CONCLUSION

This study identifies the profile of nursing home residents transferred to the acute care hospital and the factors that may prevent unnecessary transfers. The latter sets the stage for implementing measures to reduce unnecessary hospitalizations in the nursing home population.

ACKNOWLEDGEMENT & REFERENCES

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