Retrospective Study of Factors Contributing to Rehospitalization from Hospice Homecare

Su-Yen Tan[1], Saw Nandar Nwe[1], Vibha Prasad[1], Lee Yen Lim[3], Yin Yee Wong[1], Grace Meijuan Yang[2], Shirlynn Ho[1,2], Patricia Soek Hui Neo[1,2]

[1]Assisi Hospice, Singapore, [2]Division of Supportive and Palliative Care, National Cancer Centre Singapore, [3]National University Hospital

BACKGROUND

Patients admitted to home hospices in Singapore are generally expected to have a prognosis of up to 1 year. Current research shows that receiving home hospice care post discharge is associated with decreased hospital readmissions. Factors such as younger age, being cared for by a parent or other relatives (as opposed to a spouse of partner caregiver) and lack of advanced care plan (ACP) increased readmissions. [1,2] In a local context, research for the general population has shown that factors causing frequent hospital admissions include male gender, history of malignancy, increasing age and residing in public rental housing.[3] There is currently no published data for factors associated with rehospitalization in home hospice patients in Singapore.

OBJECTIVE

To ascertain associated factors, reasons and outcomes of planned versus unplanned rehospitalizations in home hospice patients from a single hospice service.

METHOD

A retrospective descriptive analysis was conducted on all deceased home hospice patients from a single hospice in Singapore over a 1-year period. Patient characteristics, preferred care plans, reasons for hospital readmissions, timing of readmissions and subsequent patient outcomes were studied. Readmissions were categorised into planned or unplanned readmissions where unplanned readmissions were defined as those not initiated by hospice staff or at outpatient follow-ups. Study was approved by SingHealth Centralised Institutional Review Board with waiver of patient consent.

RESULTS: PATIENT DEMOGRAPHICS

From July 2016 to July 2017, there were 628 patient deaths, contributing to 551 episodes of readmissions while under home hospice care. Further patient demographics are shown below in Table 1.

TABLE 1: PATIENT DEMOGRAPHICS

	No Hospital admission (n=299)	At least one hospital admission (n=329)	P value
Mean age (years)	73.6 ± 14.0	67.4 ± 14.6	< 0.01
Female gender	180 (60.6%)	161 (48.9%)	<0.01
Marital status			< 0.01
Not married	163 (54.5%)	138 (41.9%)	
Married and living with spouse	136 (45.5%)	191 (58.1%)	
Caregiver			0.03
No caregiver	32 (10.7%)	28 (8.51%)	
Only family caregiver	132 (44.2%)	184 (55.9%)	
Only domestic caregiver	79 (26.4%)	68 (20.7%)	
Both family and domestic caregiver	56 (18.7%)	49 (14.9%)	
Primary diagnosis			< 0.01
Cancer	226 (76.9%)	275 (85.4%)	
Non-cancer	68 (23.1%)	47(14.6%)	
Patient aware of diagnosis	213 (71.2%)	287 (87.2%)	< 0.01
Patient aware of prognosis	146 (48.8%)	178 (54.1%)	0.15
Family aware of diagnosis	296 (99.0%)	327 (99.4%)	0.35
Family aware of prognosis	275 (92.0%)	269 (81.8%)	< 0.01
On chemotherapy before referral	121 (40.5%)	174 (52.9%)	< 0.01
On radiotherapy before referral	73 (24.4%)	110 (33.4%)	0.01
On chemotherapy after referral	12 (4.0%)	50 (15.2%)	< 0.01
On radiotherapy after referral	7 (2.3%)	16 (4.9%)	< 0.01
PPS 60 to 100	75 (25.5%)	202 (61.8%)	< 0.01
ACP done	274 (91.6%)	243 (73.9%)	< 0.01
Home death	221 (73.9%)	98 (29.8%)	< 0.01

RESULTS: REASONS FOR READMISSION

Less than half (n=299, 47.6%) had no hospital readmission while 329 patients (52.4%) experienced at least 1 readmission. There were 330 episodes of unplanned readmissions (59.9%), where 105 (31.8%) resulted in death. The main reasons for both planned and unplanned readmissions were symptom management and further investigation. (Figure 1) The main symptoms resulting in unplanned readmissions were for breathing, pain and fever. (Figure 2)

One hundred and eight episodes of unplanned readmissions (55.7%) as compared with 39 episodes of planned readmissions (18.8%) occurred out of office hours, whereas 168 episodes of planned readmissions (81.2%) occurred during office hours.

Fig 1. Reasons for readmissions

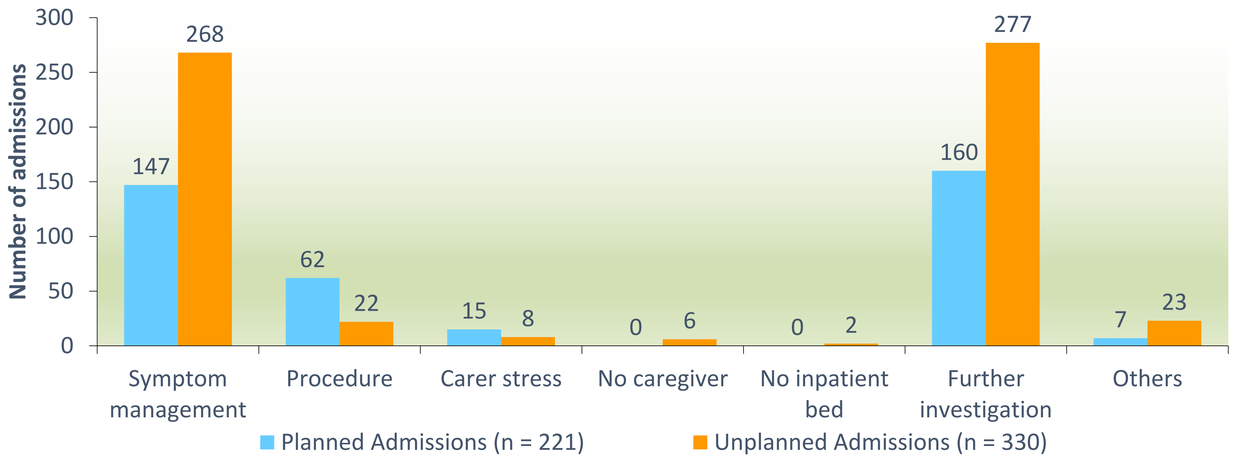
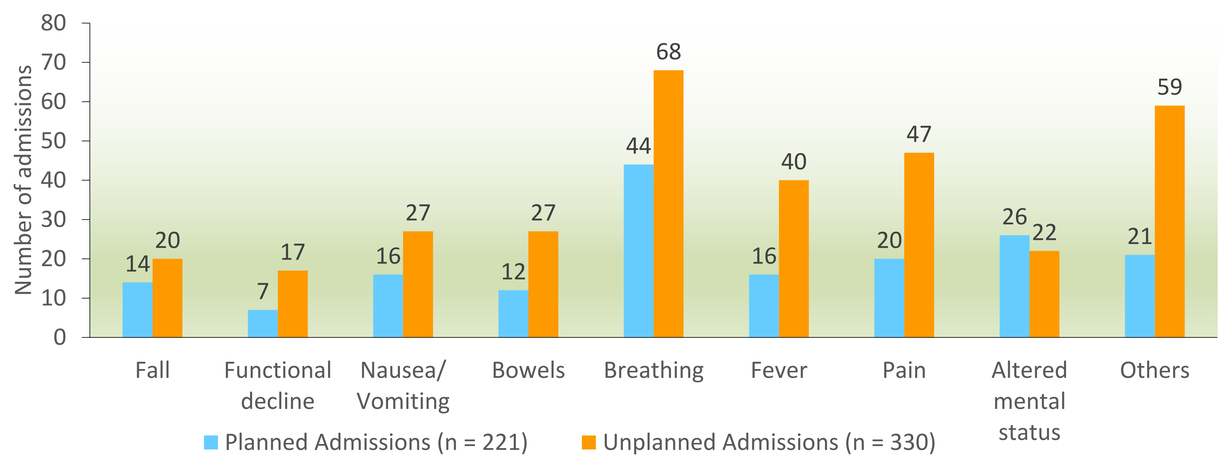


Fig 2: Symptoms that contribute to readmissions



RESULTS: OUTCOME OF ADMISSIONS

ACP was explored in 274 patients with no hospital readmissions (91.6%), compared to 243 patients (73.9%) with at least one readmission (p<0.01). Out of 329 patients, 161 demised during the hospital readmission (48.9%). There were 105 unplanned admissions that resulted in death (31.8%), versus 56 planned admissions (25.3%)(p=0.37).

DISCUSSION AND CONCLUSION

Patients who are male, with a family caregiver, PPS between 60 to 100 and on chemotherapy before referral were more likely to have hospital readmissions. Hospital readmissions were largely for symptom management and for further investigation. This may reflect the needs of our patients with higher functional status keen to seek further active management in view of symptoms. Families' involvement in decision making may also account for the lower readmission rates when families are aware of prognosis. However, as 48.9% of readmissions eventually lead to demise, this suggests that readmissions should be carefully assessed and discussed as outcomes may be unfavourable and misaligned with their goals of care. There is also a need for further studies to assess the adequacy of symptom control and EOL discussions, which may help to prevent inappropriate readmissions.

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