

A Tertiary Care Ambulatory Heart Failure Pathway

managing one third of all admissions including older patients with similar quality to inpatient management

Amy Thomson Anderson^{1*}, Nicola Fawcett¹, Sania Naseer¹, Anurup Kumar¹, Barbara Lachana Onen¹, Rebecca Bone¹, Helen Nolte¹, Jordan Bowen¹, James Gamble¹

1: Oxford University Hospitals NHS Foundation Trust *: Presenting author; correspondence to: amy.thomson-anderson@ouh.nhs.uk

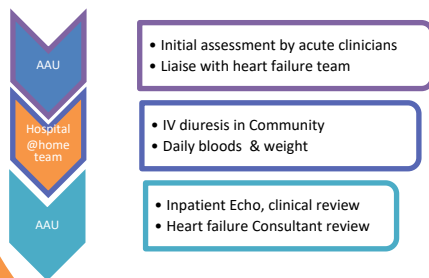
INTRODUCTION

- Heart failure (HF) is the commonest cause of adult hospital admissions in >65s
- Over 67,000 admissions in England and Wales per year
- Average hospital stay lasts 13 days and costs an average £3,800
- Increased use of Same Day Emergency Care (SDEC) services provide opportunity for novel HF management pathways

RESULTS

- From August 2019 to January 2021, 598/1919 (31%) HF admissions were managed on the ambulatory pathway.
- Factors associated with inpatient management were hypotension, higher NYHA class, faster heart rate, higher NT-pro BNP, lower haemoglobin, and living alone (Table 1)
- Age was not associated with inpatient management
- Patients managed via the ambulatory pathway were more likely to be referred to heart failure nurses and follow up on discharge
- There was no difference in the proportion seen by specialist team within 24 hours, or having an echocardiogram
- Savings of approximately 5000 estimated bed-days

Fig. 1 Ambulatory heart failure pathway



METHODS

- A unique Ambulatory heart failure pathway (Fig. 1) was established in a Medical SDEC unit at the John Radcliffe Hospital, Oxford
- Supported by specialist HF team and a Hospital At Home service
- The service provides intravenous diuretic therapy, clinical assessment and point-of-care diagnostics
- Data were collected from August 2019 to January 2021 on every index HF admission as part of the National Heart Failure Audit

DISCUSSION

- A third of heart failure management can be achieved via an ambulatory pathway
- There was no difference in quality outcomes when compared with inpatient care
- Potential large saving in inpatient bed usage, but needs to be balanced against resource requirements to setup and support outreach nursing teams
- Mortality differences likely represent patient selection
- Further evaluation needed to understand which patients benefit most from ambulatory services

Table 1: Patient characteristics and mortality for heart failure index admissions

Characteristics (N = 1919)	Inpatient (N = 1321) N(%) or med(IQR)	Ambulatory (N = 598) N(%) or med(IQR)	Data missing	p*
Age	82 (74-88)	81 (73-88)	0	0.218
Prior Comorbidities				
Ischaemic Heart Disease	441 (33)	199(33)	0	0.964
Pulmonary Disease	284 (22)	117(20)	3	0.627
Cerebrovascular Disease	205 (16)	63(11)	8	0.014
Diabetes	383 (29)	181(30)	3	0.847
Hypertension	691 (52)	337(56)	3	0.255
Valvular heart disease	225(17)	96(16)	4	0.835
Smoker	108 (8)	52(9)	395	0.092
Characteristics at admission				
Hypotension (bp<100 systolic)	128 (10)	30(5)	0	0.001
NHYA breathlessness scale (1-4)	3(3-4)	3(3-3)	31	0.024
Heart rate on admission	86(71-102)	82(69-97)	0	0.012
NTProBNP (pg/mL)	6015(2396-14340)	3516(1773-8717)	934**	<0.001
Creatinine (umol/l)	104(70-149)	103(75-140)	62	0.367
Haemoglobin (g/L)	119(101-136)	124(108-138)	1	0.002
Living alone	523(40)	196(33)	103	0.016
Outcomes				
30 day mortality - (comorbidity corrected)	570(34)	28(11)	0	<0.001
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*p values calculated using ranksum tests for continuous variables and chi-squared test for categorical variables
**NTProBNP reading collected by heart failure nurses, awaiting confirmation from direct lab testing results
#30 day mortality - death in hospital or death within 30 days of discharge
-From multivariable regression models based on backwards elimination p<0.05, from mortality plus table 1 factors

Want to set up your own ambulatory heart failure service?

Email:

Jordan.bowen@ouh.nhs.uk

REFERENCES

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