

Impact of a community based multidisciplinary heart failure program on hospital admissions

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Chronic Heart Failure (CHF)

- Approx 300,000 Australians with CHF
- Incidence and prevalence rising markedly with age
- Accounts for 0.8% of all hospital admissions
- 75% of CHF admissions occur in the elderly
- Heavy burden on healthcare resources
- Substantial portion of healthcare costs due to hospital readmission

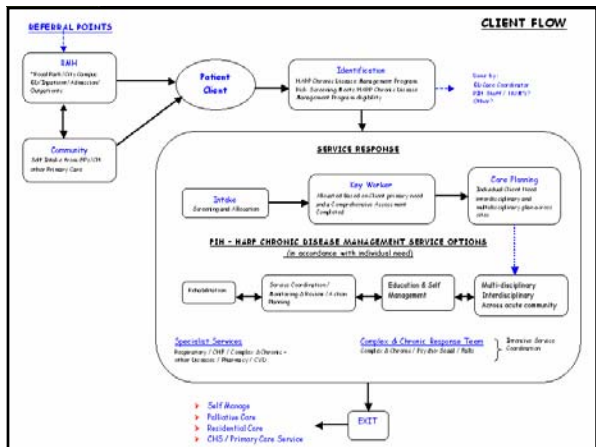
CHF Guidelines 2006 - National Heart Foundation

CHF Disease Management Programs

- Multi-disciplinary
- Shown to reduce hospital admissions in selected patient groups
 - Reducing hospital admissions has been shown to improve quality of life
- Few studies involving Culturally and Linguistically Diverse (CALD) patients
 - CALD patients - potentially worse prognosis due to difficulties accessing mainstream services

Heartwise Program

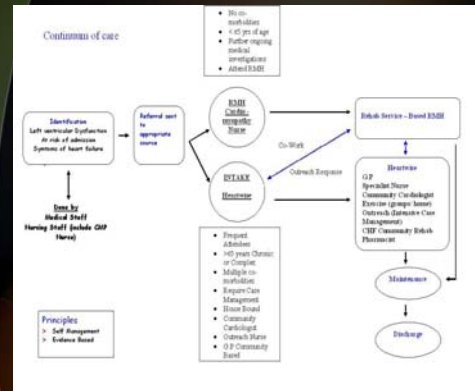
- Part of Partnerships in Health (PIH) - HARP (Hospitals Admission Risk Program) Chronic Disease Management Program
- CHF service component called Heartwise
 - Incorporates Melbourne Health, Moreland and Dousta Galla community Health Services, Royal District Nursing Service and the Melbourne Division of General Practice
 - Operates in LGAs of Melbourne, Moonee Valley and Moreland



Heartwise Program

- Client focused with extensive use of interpreters
- Intensive service co-ordination / case management
- Education regarding
 - Early detection of decompensation - Action Plan
 - Symptom monitoring
 - Medications and adherence to therapy
 - Diet, exercise, salt and fluid restriction

Continuum of Care



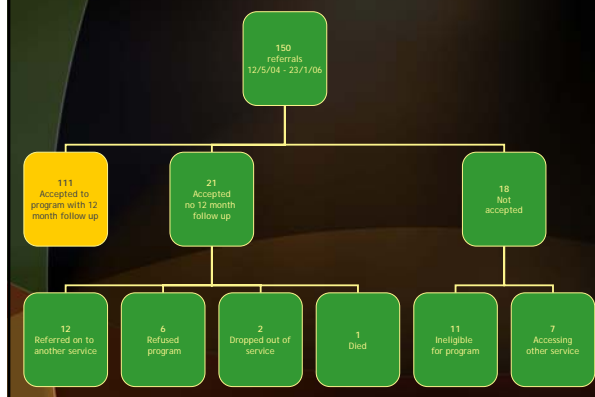
Continuum of Care



Aim of evaluation

- To determine whether Heartwise reduces subsequent heart failure admissions in an elderly population with complex needs
 - To determine if Heartwise is servicing the target population
 - End points were:
 - Emergency department presentations
 - Total hospital admissions
 - Heart failure admissions
 - Length of stay (LOS) for both total & HF admissions
- In the 12 months prior to and 12 months post the index admission

Method of patient selection



Method

- Observational cohort study design
- Retrospective control group identified to determine if Heartwise intervention resulted in clinical benefit
- Control group
 - Time period the same as Heartwise (12/5/04 - 23/1/06)
 - Refined by catchment area, exclusion of nursing home residents
- Control identified 170 patients

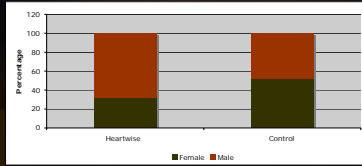
Results

Heartwise

- 111 patients
- Median age 77
- 68.5% male

Control

- 170 patients
- Median age 80.5
- 47.6% male

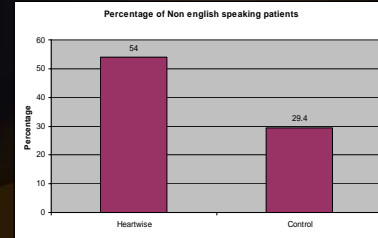


More males in Heartwise vs Control
p = 0.001

Results

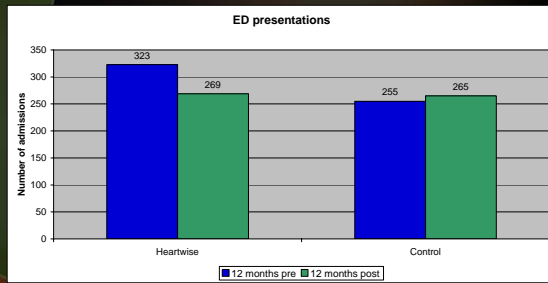
• Culturally and Linguistically diverse (CALD)

Defined by patients that are non - English speaking



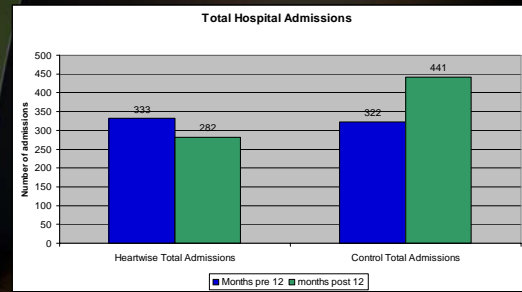
More CALD clients in Heartwise vs Control
p < 0.001

ED presentations



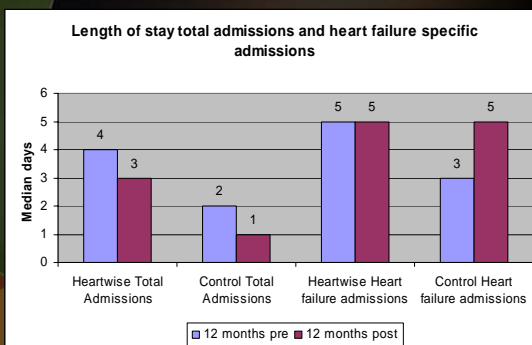
The relationship between group and time period was not statistically significant (Chi-squared)

Total Hospital Admissions

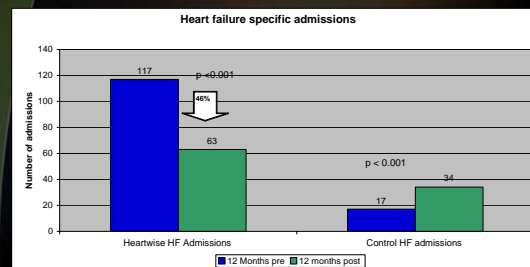


There was a strong significant association between group and time period
p < 0.001 (Chi-squared)

Length of Stay



Heart failure specific admissions



There was a statistically significant reduction in heart failure admissions for the Heartwise group. The increase in HF admissions for the control group was not statistically significant.

Mortality

Data re-analysed excluding patients that had died

Heartwise

76 patients	12 Month Period before	12 month period after	P Value
Emergency Presentation	194	164	
Total Hospital admissions	205	178	
Heart failure specific admissions	76	26	<0.001

Control

106 Patients	12 Month Period before	12 month period after	P Value
Emergency Presentation	124	137	
Total Hospital admissions	137	283	
Heart failure specific admissions	7	17	0.709

Limitations

- Data collection and statistical analysis dependant on accuracy of primary diagnosis coding by medical records
- Validating control group using same search query only found 60% of heartwise patients
- Control not perfect comparison
- Increased rate of death in control indicate a possibly sicker population
- Conversely increased LOS in Heartwise patients possibly greater number of active medical issues.

Discussion

- Heartwise population elderly and from CALD background
- Pattern of admissions suggest that Heartwise are targeting the appropriate population
- Control population suggests a number of missed referrals
- Data suggest that a multidisciplinary program is able to affect all cause admissions
- Intervention group (Heartwise) successful in reducing total and heart failure specific hospital admissions compared to control group

Conclusion

- Community based multidisciplinary heart failure programs may be highly effective in reducing hospital re-admissions
 - in elderly patients
 - in CALD patients
- This study highlights the need for broader access to community based disease management programs