Grampians Health

Igniting the Spark: The commencement of the Heart Failure Collaborative

Presented by Bridget Kelly

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Conflicts of Interest

The authors have no relevant financial or non-financial interests to disclose.

Clinical governance approval was arranged for the implementation of the model of care and ethics approval was obtained for retrospective analysis, ID is 101228.

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Heart Failure

- In 2022 144,000 people over 18years of age reported having Heart Failure.[1]
- In 2020-2021 there were 179,000 Heart Failure hospitalisations representing 1.5% of all hospitalisations in Australia.[2]

1. Heart, Stroke & Vascular Disease (2024) AIHW
2. Heart failure & cardiomyopathy (2024) AIHW

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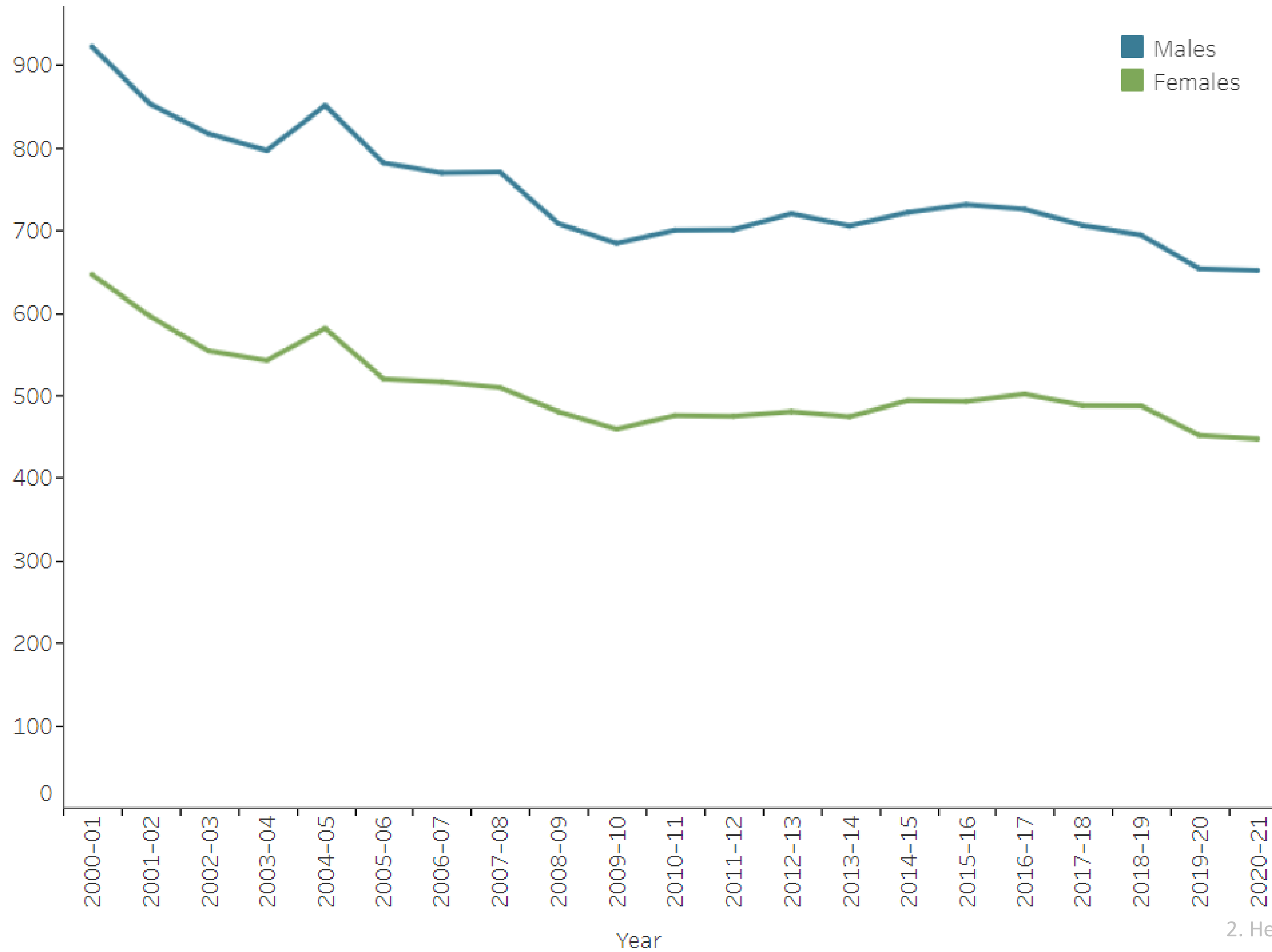
Heart Failure hospitalisation rates, principal and/or additional diagnosis, by sex 2000-01 to 2020-2021[2]



2. Heart failure & cardiomyopathy (2024) AIHW

Grampians Health Services Ballarat

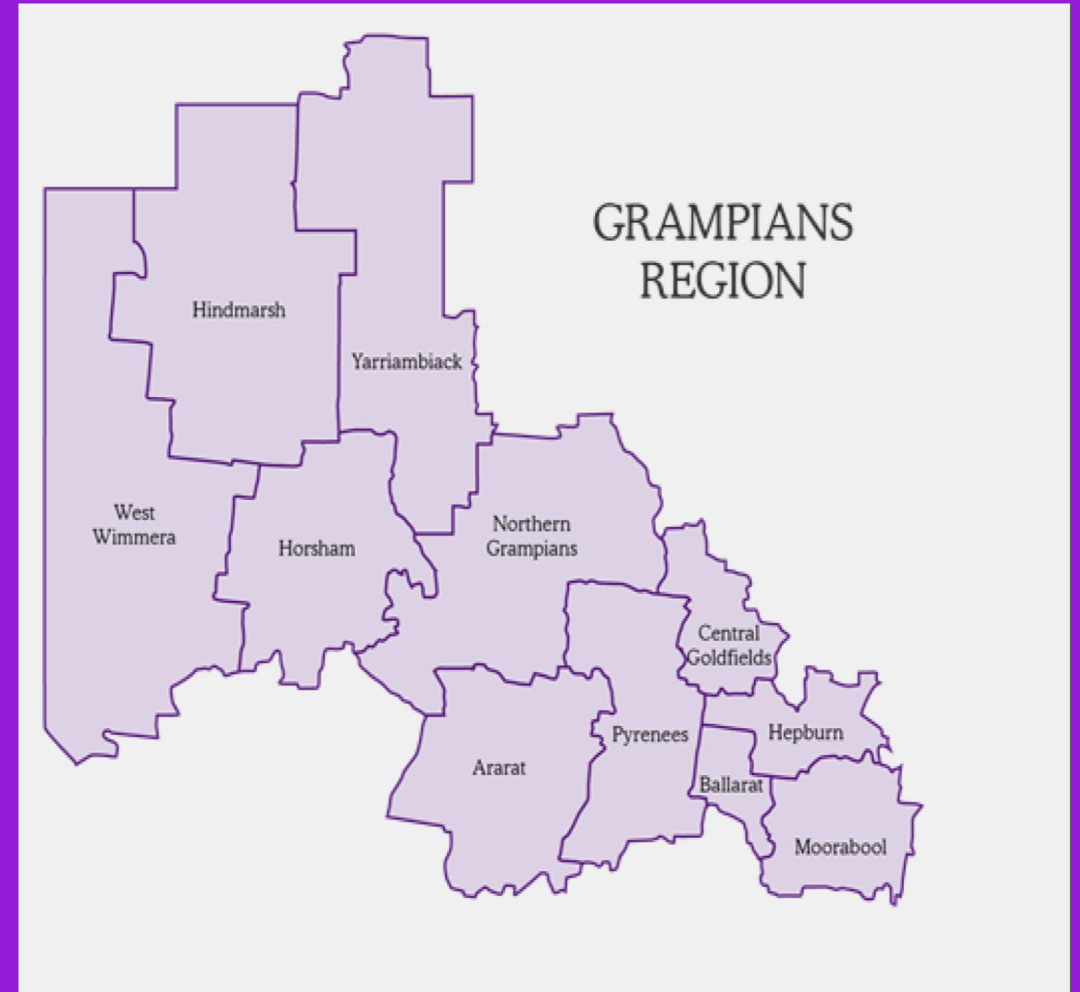
Data from 2021-2022 where Heart Failure was the primary diagnosis

	Grampians Health Ballarat	Victorian Risk Adjusted Averages[5]
30-day all-cause readmission rates	22.6%	16.1%
30-day all-cause mortality rates	6.8%	4.9%

Average length of stay:

- Grampians Health Ballarat: 9 days
- Nationwide for Australia: 6.6 days[4]

Catchment population of 250,000 people[3]



3. About the GPHU (2024) GHB
4. Sindone et al (2024) Heart Lung Circ
5. HF Collab (2022) SCV

The Spark

5. Emphasise the importance of cardiac rehabilitation, and physical activity and community chronic disease management programs.

- ♥ Promote attendance at an exercise program and explain how physical activity improves heart, mind and overall health and wellbeing.
- ♥ Facilitate a referral to cardiac rehabilitation, or community-based exercise group run by an exercise professional.
- ♥ Chronic disease management programs and heart failure outreach programs improve quality of life and reduce hospital readmission. Ensure patients are enrolled before discharge. Do they require referral for additional psychosocial support or management of other conditions (Health Independence Program (HIP), Hospital Admission Risk Program (HARP))?

Model of Care

Create a Multidisciplinary Consult Team.

Consisting of:

- Heart Failure Nurse Practitioner
- Advanced Trainee in General Medicine rotating through Cardiology
- Heart Failure Pharmacist

Implement the Heart Foundations 'Five Steps to a Safe Heart Failure Discharge'.

Increase the prescribing of guideline directed medication therapy (GDMT) for heart failure with reduced ejection fraction (HFrEF) patients on discharge.

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Outline

Patients admitted from February to December 2022 with signs and symptoms of Heart Failure are consulted by the Multidisciplinary Consult Team.

- ♥ Care & medication optimization recommendations are made by the Multidisciplinary Heart Failure Consult Team.
- ♥ Education as an inpatient.
- ♥ Mandatory referrals to HARP and Cardiac Rehabilitation.
- ♥ Patients are called within 48hours of discharge by the HF Nurse and medical review is organised within 7 days of discharge.
- ♥ Patients are given access to the Heart Failure urgent symptom review & HELP line.

Guideline Directed Medication Therapy (GDMT)

- ♥ Angiotensin-converting enzyme inhibitors (**ACEi**)/ angiotensin receptor blockers (**ARB**)/ angiotensin receptor-neprilysin inhibitor (**ARNI**).
- ♥ Beta blockers (**BB**).
- ♥ Mineralocorticoid receptor antagonist (**MRA**).
- ♥ Sodium-glucose cotransporter-2 inhibitors (**SGLT2i**).

HEART FAILURE PATIENT MANAGEMENT Checklist

Aboriginal & Torres Strait Islander	☐ Aboriginal	☐ TSI	☐ Neither
English as first language	Yes/ No	**Born in Australia**	Yes/ No ___________
HF DIAGNOSIS	☐ **HFrEF**	☐ **HFpEF**	☐Pul HTN RVSP_____
TTE Date:	**LVEF %** ________	**RV function** _______	RWMA ☐ DCM ☐
Heart VALVES: Mild/Mod/Severe	MVR/MS	TVR/AS	AVR/AS
COMORBIDITIES	☐ **Diabetes** ☐**HTN**	☐ **IHD**___________	☐ **COPD** ☐ **ASTHMA**
Smoker ☐ Current ☐ Ex-smoker	☐ **Mood Disorder**	☐ **AF** NOAC Yes/No	☐ **Obesity** Wt (Kg)___
☐ **OSA** CPAP Yes/No ☐ **ETOH**	☐ PPM/ICD/CRTD	☐ **GOUT** ☐ **GORD**	**BNP**___________
Daily weight Yes/No	**Fluid Restriction**	Yes/ No	1000/ 1250/ 1500 mL
Fe levels checked (HFrEF) Yes/ No	**Ferritin** _______, **Tsat** ______%	**Fe infusion ordered** Yes / No	**Hb** ___ **K+** ___ **Urea**__ **Creat** ___ **eGfr** ___%

MEDICATIONS PRESCRIBED (Guideline Directed Medication therapy HFrEF, or other):

		Medication	If no, please specify reason	
ACEI/ARB	Yes/ No	________________	☐ Renal ☐ K+	☐ Hypotension Other ______________
ARNI	Yes/ No	☐ Sacubitril/valsartan	☐ Renal ☐ K+	☐ Hypotension Other ______________
Beta blocker	Yes/No	☐ Bisoprolol ☐ Nebivolol ☐ Metoprolol succinate ☐ Carvidelol		☐ Hypotension ☐ Bradycardia
MRA	Yes/No	☐ Spironolactone ☐ Eplenerone	☐ Renal ☐ K+	☐ Hypotension Other ______________
SGLT2inh	Yes/No	☐ Empagliflozin ☐ Dapagliflozin	☐ Renal	Other ______________
Beta Blocker not tolerated		☐ Ivabradine SR, P>=77 ☐ Digoxin	**Anticoagulant:**	☐ Dapibatran ☐ Apixaban ☐ Rivaroxaban ☐ Warfarin
ACEI/ARB not tolerated		☐ Hydralizine ☐ ISMN		
Other HF meds		☐ Hydrochlorothiazide ☐ Furosemide ☐ Bumetanide	**Other Cardiac Meds**	☐ Amiodarone ☐ Calcium Channel Blocker ☐ IR Beta Blocker

6 Steps to a Safe HEART FAILURE DISCHARGE:

☐ **NOT 'In scope'** for Safer Care Victoria reporting

Please circle, initial, and add your designation, e.g. RMO, NP, RN, EN, Pha. If not completed, *please enter reason in right column, e.g. delirium, cognitive deficit, off ward, tfr to another hospital etc.*

Patient asked 'What matters to you?"	**Yes/No**	
1. **Education** on **signs** & **symptoms** of **HF** and **fluid management** provided to patient/carer	**Yes/ No**	______________
a. ***Living well with heart failure* book** given	Yes/ No	______________
b. **Daily weight diary** given	Yes/ No	______________
c. **Symptom tracker** given	Yes/ No	______________
d. Patient/carer has **measuring jug** or given	Yes/ No	______________
e. Patient/carer has **weighing scales**	Yes/ No	______________
2. **Written action plan provided to patient/carer**	**Yes/ No**	______________
a. Patient/carer know who to call; **fridge magnet given**	Yes/ No	______________
3. **Medication education provided**	**Yes/ No**	______________
a. Verbal	Yes/ No	______________
b. Written medication list from pharmacy	Yes/ No	______________
4. **Medical review scheduled within 7 days**	**Yes/ No**	______________
a. GP appointment booked?	Yes/ No	______________
b. BHS@Home admission?	Yes/ No	______________
c. Heart Failure Clinic appointment booked?	Yes/ No	______________
5. **Referral to Cardiac Rehabilitation** Sent	**Yes/ No**	
a. Cardiac Rehabilitation Referral Form **(MR 020.21)**	Yes/ No	______________
b. Requested on HARP referral	Yes/ No	______________
6. **Referral to HARP** Sent Grampians Watch/HARP referral (Bossnet **MR0315.5**)	Yes/ No	______________
a) HF education & assessment of self-management skills	Yes/ No	______________
b) Medication education	Yes/ No	______________
c) Advanced Care Planning	Yes/ No	______________
d) Referral to Cardiac Rehab, HIP or Physiotherapy	Yes/ No	______________

(On HARP referral: Please state **dry weight** if known).

Additional referrals:

a) Referral to Heart Failure Clinic **(MR 104.20)**	Yes/ No	Requested / Completed
b) Referral to Palliative care	Yes/ No	Requested / Completed

IMPLEMENT-HF

Virtual Care Team-Guided Therapeutic Optimization During Hospitalization in Patients With Heart Failure

Prospective, Multicenter, Randomized, Controlled Trial

OBJECTIVE: To assess the safety and effectiveness of a virtual care team-guided strategy on guideline-directed medical therapy (GDMT) use in hospitalized patients with heart failure with reduced ejection fraction (HFrEF).

252
PATIENTS

INCLUSION CRITERIA: Patients with previously or newly diagnosed HFrEF (LVEF ≤40%) admitted to non-ICU medical or surgical service with acute HF or other indications

VIRTUAL CARE TEAM (N=82 PATIENTS, 107 ENCOUNTERS)

VS.

USUAL CARE (N=115 PATIENTS, 145 ENCOUNTERS)

PRIMARY ENDPOINT

THE PRIMARY ENDPOINT OF COMPOSITE GDMT SCORE AT DISCHARGE (SUM OF CARE OPTIMIZATION CHANGES) WAS IMPROVED WITH VIRTUAL CARE TEAM vs. USUAL CARE (ADJUSTED DIFFERENCE +1.2; P<0.001).

CONCLUSION

Among hospitalized participants with HFrEF, a virtual care team-guided strategy on GDMT optimization improved GDMT use during hospitalization and at the time of discharge.

Bhatt AS, Varshney A, Moscone A, et al. Virtual Care Team-Guided Therapeutic Optimization During Hospitalization in Patients with Heart Failure: The IMPLEMENT-HF Study. *J Am Coll Cardiol* 2023; Mar. 6: [Epub ahead of print]

Developed and reviewed by Katherine Fell, MD; and Richard Kovacs, MD, MACC

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Demographics

From February to December 2022, 185 patients were admitted to Grampians Health Ballarat with Heart Failure signs and symptoms. 112 of these patients had a history of HFrEF.

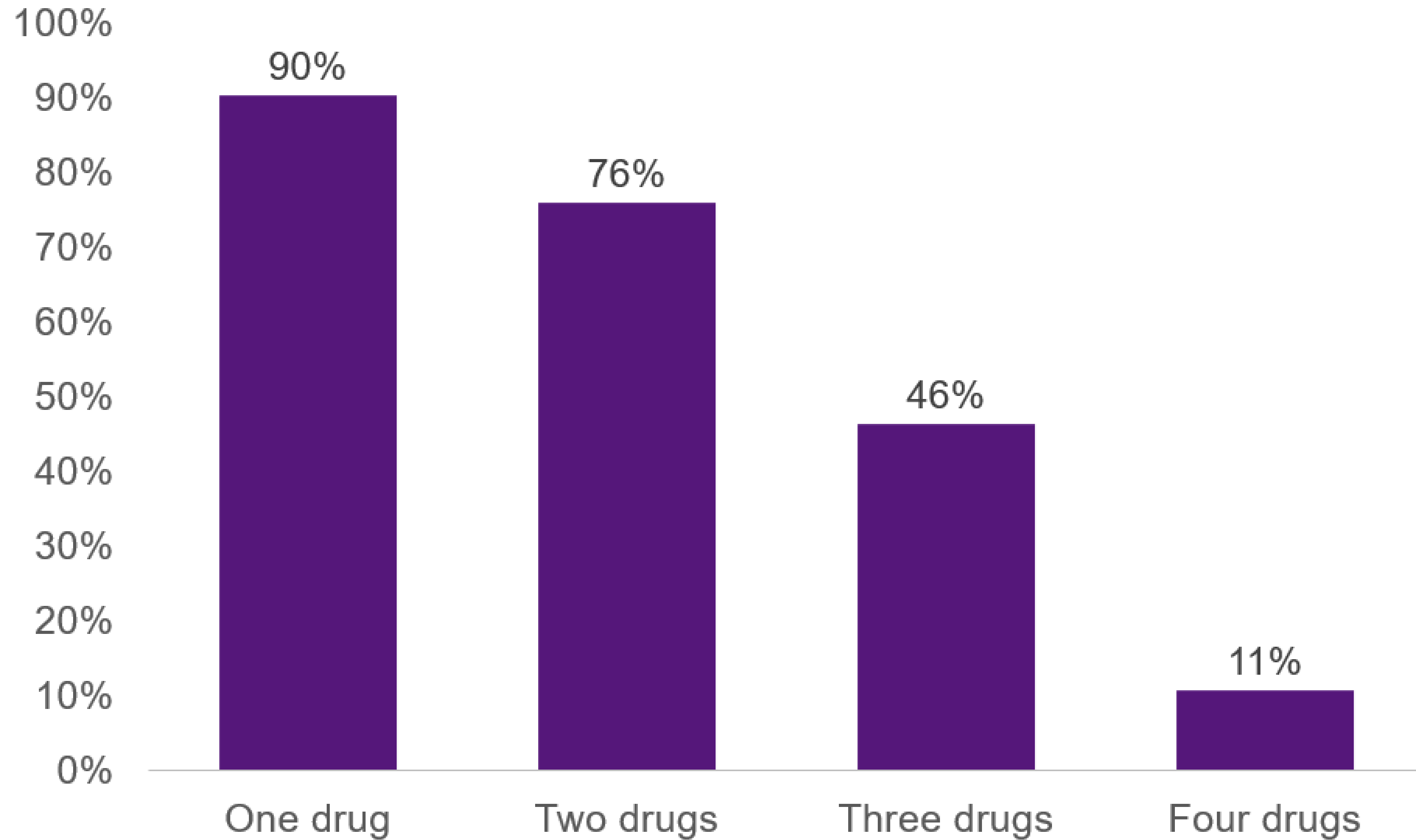
	Grampians Health Ballarat (n=185)	Grampians Health Ballarat, HFrEF (n=112)	IMPLEMENT HF Intervention arm (n=107)[7]	IMPLEMENT HF usual care arm (n=145)[7]
Mean Age	73	72	70	69
Female	76 (41%)	34 (40%)	37 (35%)	48 (33%)
Across the Grampians Health Ballarat cohort: ♥ Current Smokers: 33/185 (18%) ♥ Ex-smokers: 72/185 (39%)				
Common Comorbidities				
Hypertension	102 (55%)	61 (55%)	93 (87%)	112 (77%)
Ischemic Heart Disease	81 (44%)	59 (53%)	51 (48%)	71 (49%)
Atrial Fibrillation	89 (48%)	51 (46%)	34 (32%)	53 (37%)
Diabetes	74 (40%)	42 (38%)	40 (47%)	56 (39%)

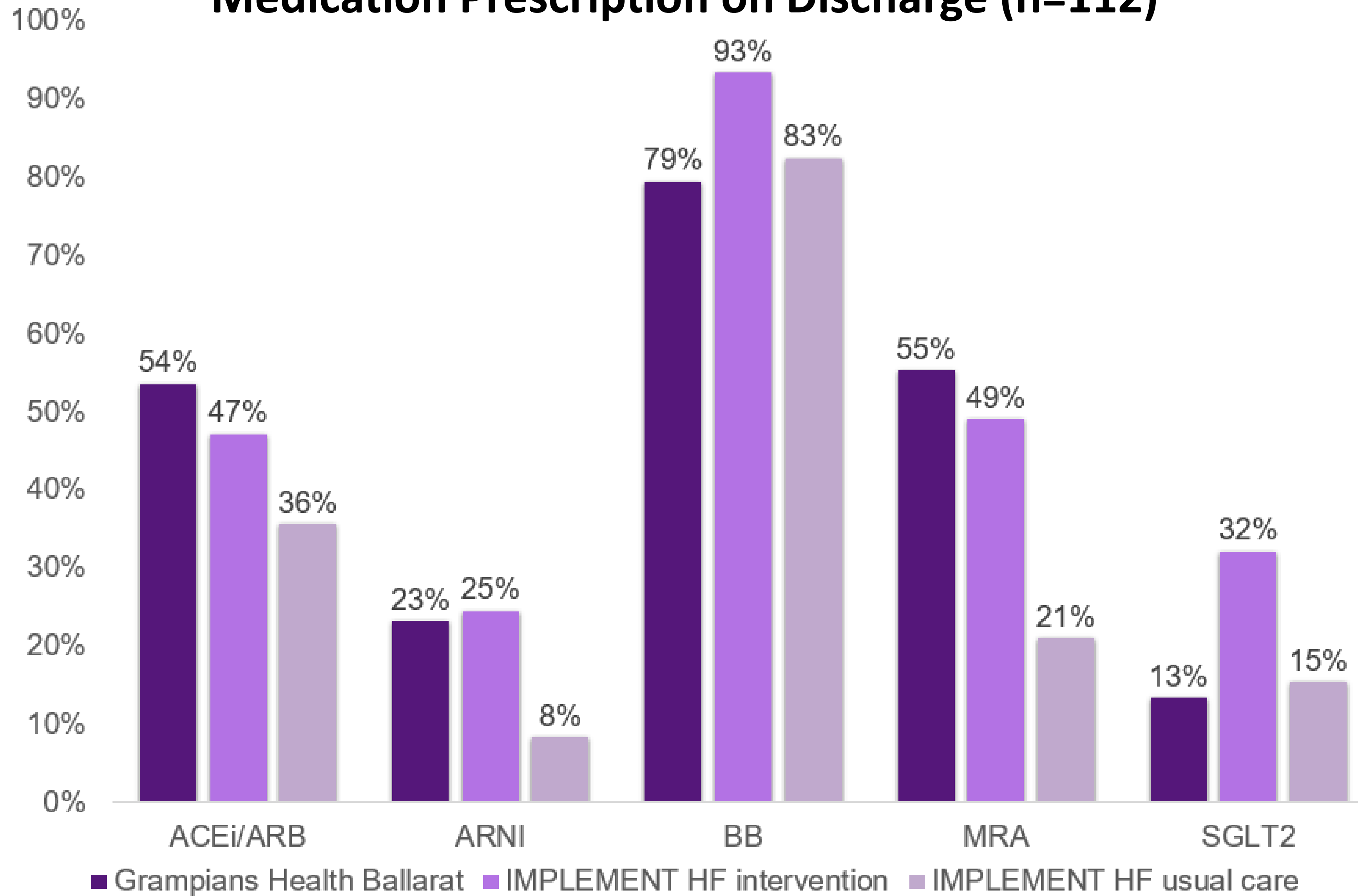
7. Bhatt et al (2023) JACC

Success of implementing the Five Steps

- Completing the Heart Foundations ‘Five Steps to a Safe Heart Failure Discharge’.
  - 70% of patients received all five steps.
  - 83% of patients received the remaining four steps when we removed the ‘access to a medical review within 7 days of discharge’.
- Increased referrals to HARP and Cardiac Rehab.
- Creation of the GH at Home Heart Failure pathway.
- Median length of stay was 7 days.

Medication Prescription on Discharge (n=112)

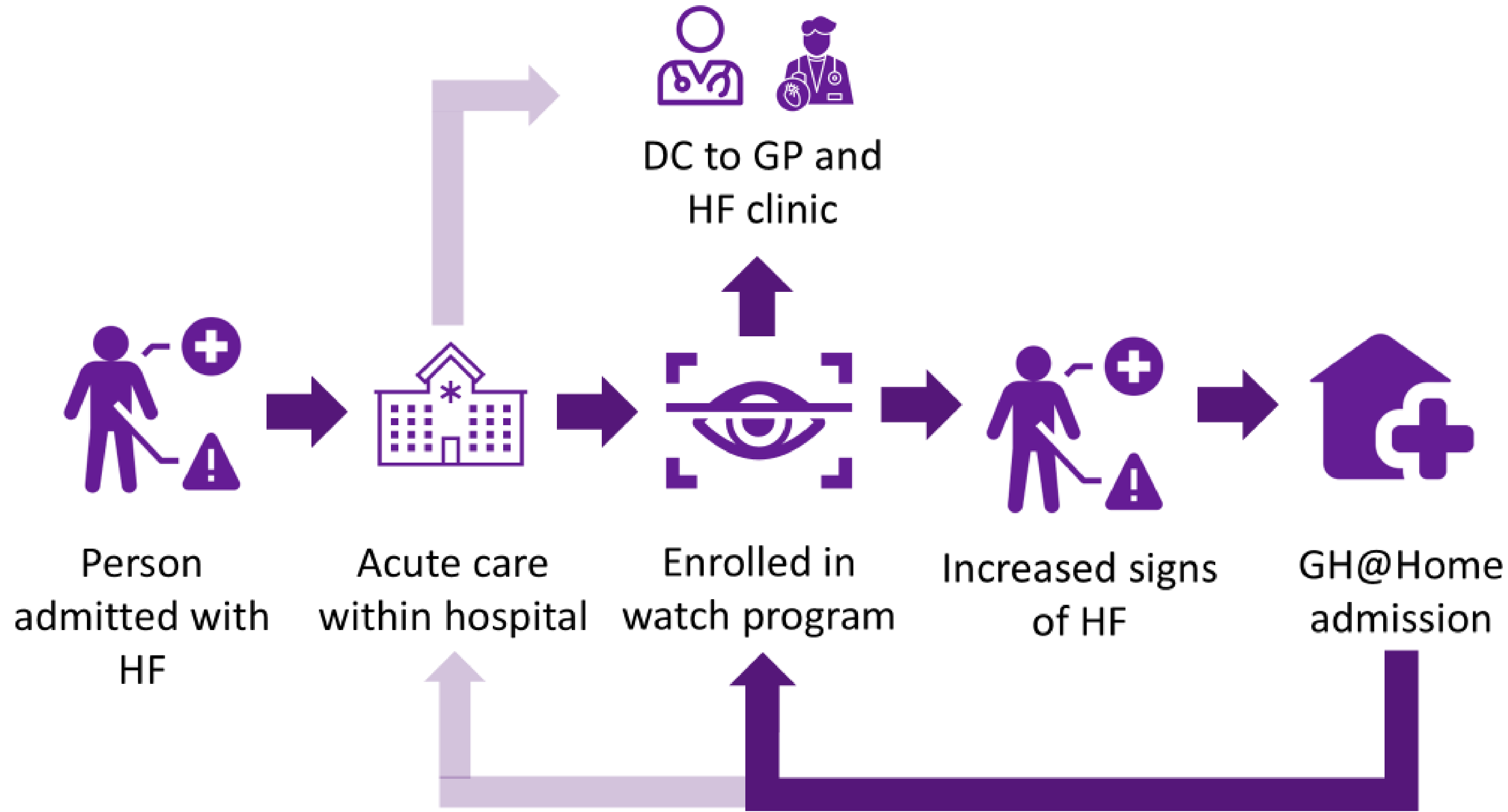



Medication Prescription on Discharge (n=112)
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
54%
47%
36%
23%
25%
8%
79%
93%
83%
55%
49%
21%
13%
32%
15%
ACEi/ARB
ARNI
BB
MRA
SGLT2
Grampians Health Ballarat
IMPLEMENT HF intervention
IMPLEMENT HF usual care

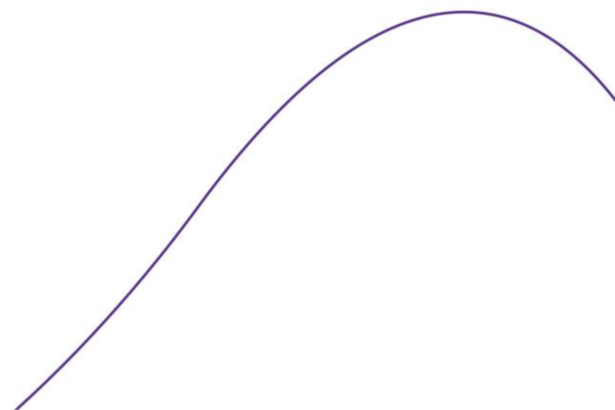
Key Points

- The multi-disciplinary model of care demonstrated high levels of GDMT engagement.
- Modest changes were seen in readmission rates.
- Increased engagement with Hospital in the Home program.
- Limitations on the long-term sustainability of the design of the model of care.

Heart failure readmission – proposed state



Questions



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Thank you

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