

# Heart Failure Toolkit



A targeted approach to reducing heart failure readmissions



# A call to action



It is with a sense of anticipation and excitement that we present you with the heart failure readmissions toolkit, designed specifically with Victorian health services in mind. It is the result of a widely consultative process both here and overseas, to ensure that we understand, act and provide targeted solutions to address heart failure readmission rates based on the patient's needs, health service pressures and best-practice recommendations.

We ask that you use the information contained in this toolkit to look more closely at your patients and the service you offer them, to ensure that we continue to support some of the most frail and at-risk people living amongst us to stay healthier in the community for longer.

A handwritten signature in black ink, appearing to read 'Diana Heggie'.

**Diana Heggie**  
Chief Executive Officer  
Heart Foundation Victoria



The Victorian Government recognises the value and importance of fostering innovation to drive health system improvement and reform.

In 2012, the Minister commissioned the Health Innovation and Reform Council (HIRC) to undertake an investigation into areas across the system in need of improvement. HIRC identified the issue of unplanned readmissions as a focal point in need of attention. Data interrogation highlighted significant variation in unplanned readmission rates across the state and a decision was made to invest in better understanding the reasons for variation and how data can be used to engage hospitals and drive improvement.

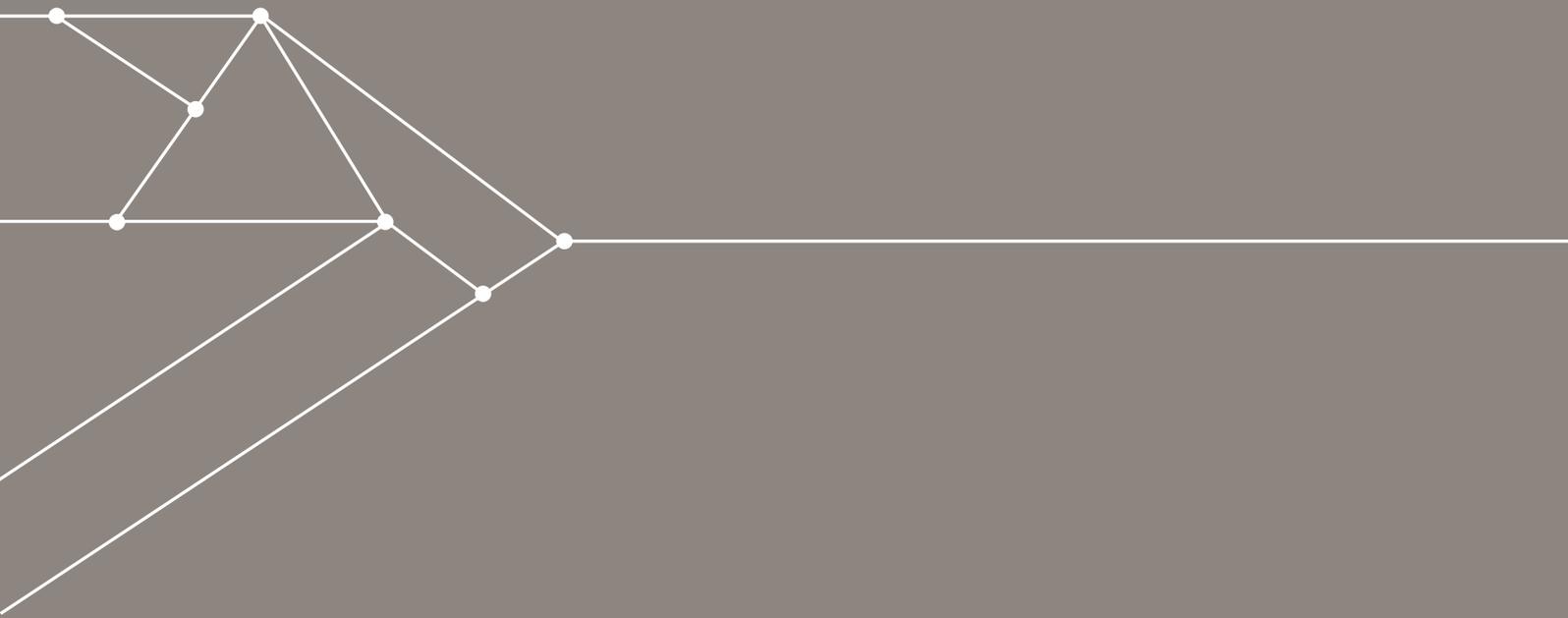
Heart failure was identified as a priority area and a starting point to investigate gaps and pressures on the system, and how they affect readmission rates, and how to incorporate best practice into process redesign.

We are pleased to see the vision of the HIRC come to fruition in the form of this heart failure toolkit. The achievements and lessons learned will be used more broadly across chronic disease to ensure that the care provided is consistent, evidence based and patient centred.

A handwritten signature in black ink, appearing to read 'Jon Evans'.

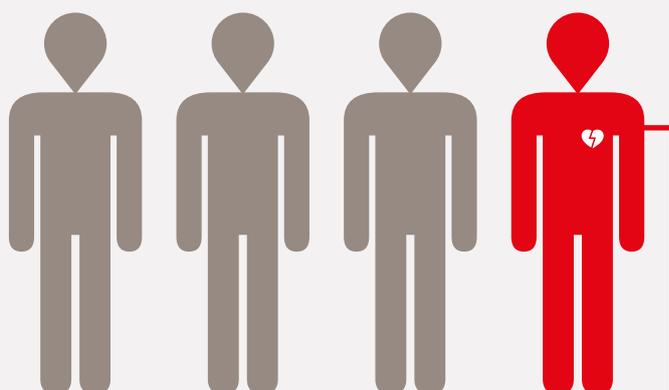
**Jon Evans**  
Director  
Office of Health Innovation & Reform

Heart failure is a **high-cost, complex** chronic condition with **high readmission rates** and **poor clinical outcomes**. Care that is **consumer centred, driven by information** and **organised for safety** has proved to be challenging to implement and deliver.



# Heart failure in Victoria under the spotlight

ACROSS VICTORIA



WITHIN 30 DAYS OF BEING DISCHARGED

**1** in **4** PATIENTS WITH HEART FAILURE WILL BE READMITTED TO HOSPITAL<sup>1</sup>

25.3%

- There is widespread variation in heart failure readmission rates across Victorian health services (from 13% to 33%)<sup>2</sup>
- Data suggest that up to two-thirds of heart failure related hospitalisations are preventable<sup>3 4 5</sup>

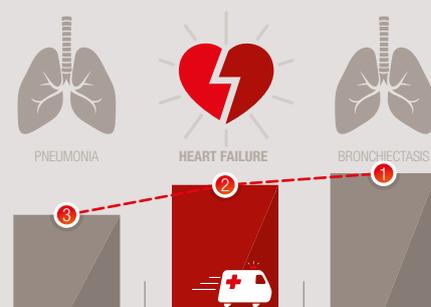
NATIONALLY

The number of hospital separations due to heart failure<sup>7</sup> has **INCREASED BY 26%** from 2003-04 to 2013-14 with an average length of stay of 7 days<sup>6</sup>

Heart failure consumes **\$1 BILLION** of the national healthcare budget, with two-thirds of this amount on hospital services (AIHW Cat no. HWE 11)

## HEART FAILURE IS:

**ONE OF THE TOP THREE** index admission DRGs associated with the greatest **BED-DAY USAGE** for **UNPLANNED READMISSIONS**<sup>2</sup>



The **SECOND HIGHEST EMERGENCY READMISSION DIAGNOSIS GROUP** based upon volume in Victoria<sup>8</sup>



Was the **LEADING CVD CAUSE OF**

**HOSPITALISATION IN VICTORIA** in 2012-13, and, has increased slightly since 2011-12<sup>9</sup>

**COSTLY**

A simple admission for heart failure (DRG 62B)

**COSTS \$3440**

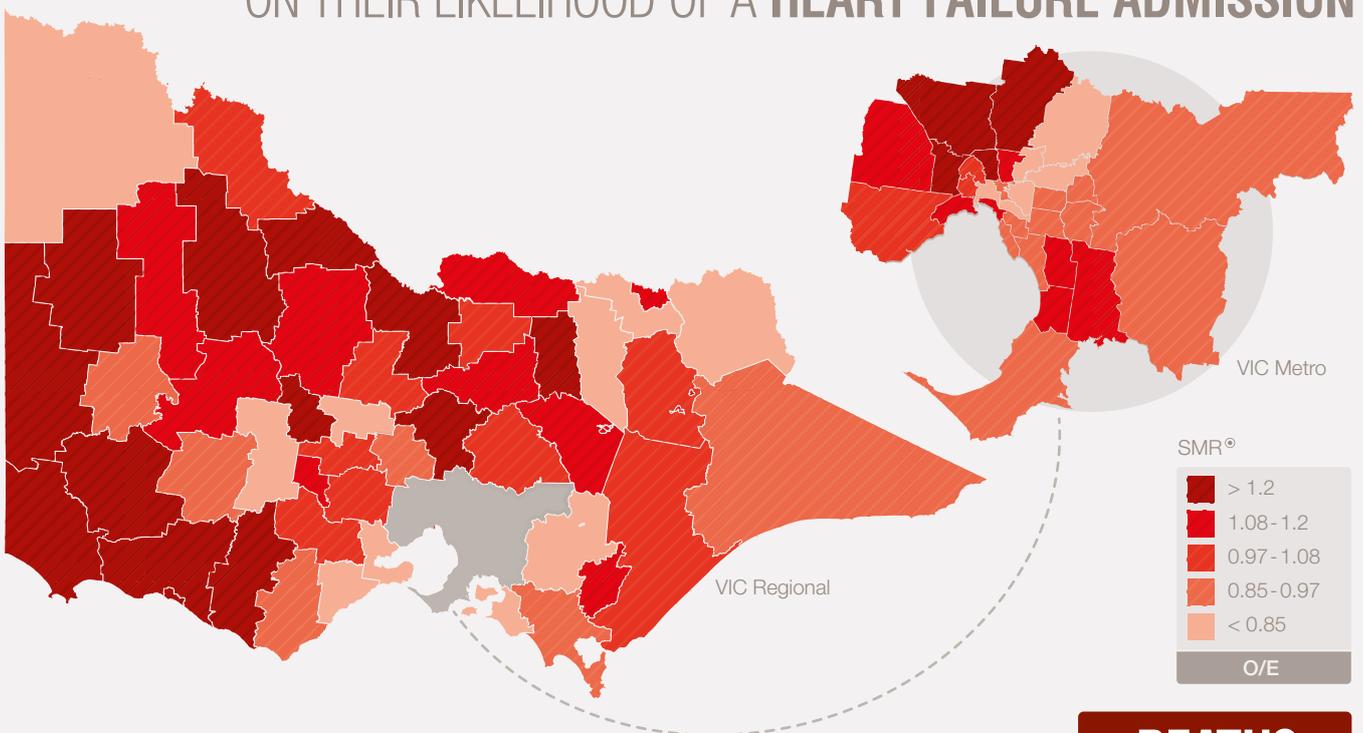
whereas a more complex heart failure admission (DRG 62A)

**COSTS \$7260**

### Acronyms:

- AMI – acute myocardial infarction
- CHF – congestive heart failure
- COPD – chronic obstructive pulmonary disease
- CVD – cardiovascular disease
- DRG – diagnosis related group
- HIRC – health innovation and reform council
- O/E – ratio of observed vs expected

# WHERE A PERSON LIVES IMPACTS ON THEIR LIKELIHOOD OF A HEART FAILURE ADMISSION<sup>12</sup>



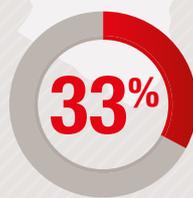
## OF THE AUSTRALIANS THAT HAVE HEART FAILURE<sup>10</sup>



had visited a GP in the past three months



had visited a specialist in the past twelve months



had been admitted as an inpatient



had visited an emergency department

### DEATHS

The number of heart failure deaths in Victoria has increased from **580 in 2004** to **767 in 2013**<sup>11</sup>

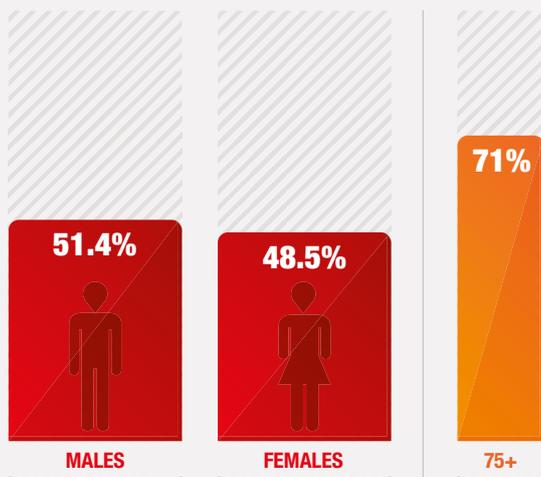
MEN 40% WOMEN 60%

\* According to diagnosis related groups (DRGs)

^ Charlson comorbidity index score: A weighted index that takes into account the number and the seriousness of comorbid disease<sup>13</sup>

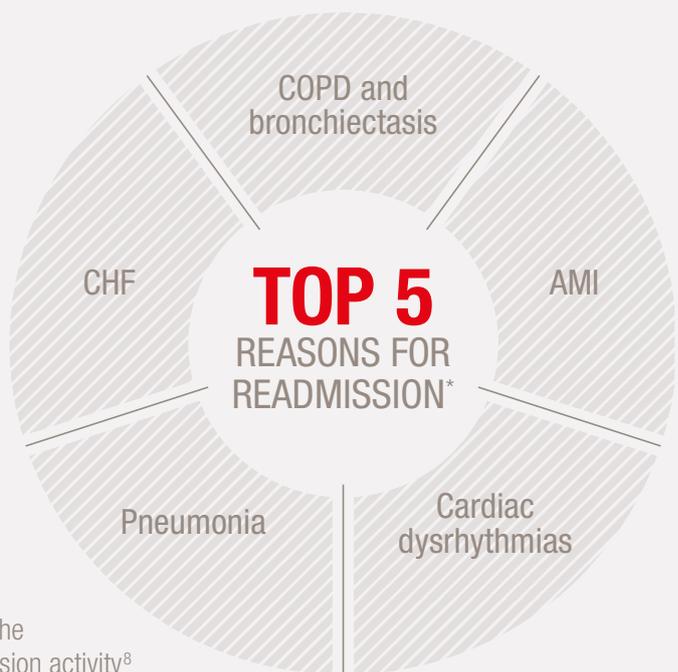
⊙ Standardised morbidity ratio (SMR) shows whether the risk of heart failure admissions in one Local Government Area (LGA) is higher or lower than expected, given the age distribution of its population. An SMR >1 indicates that the risk of a heart failure admission for a given LGA is higher than would be expected if it had the same risk profile as the Victorian population. An SMR <1 indicates that the risk of heart failure is lower than would be expected compared with the Victorian population.

## THE READMITTED PATIENT



Males have a slightly higher heart failure readmission rate than females (51.4% vs 48.5%)<sup>8</sup>

Patients aged 75+ account for 71% of the heart failure readmission activity<sup>8</sup>



## HEART FAILURE PATIENTS ARE COMPLEX

**MORE THAN  $\frac{1}{3}$**  of patients admitted with CHF have a Charlson comorbidity index score<sup>^</sup> of **6 to 9**<sup>8</sup>



**DIABETES AND DIABETES COMPLICATIONS** CONTRIBUTED TO **MORE THAN 50% OF** HEART FAILURE READMISSIONS<sup>8</sup>



<sup>1</sup> Average 30 day all-cause unplanned heart failure readmission rate 2007-8 to 2013-14. HF determined using DRG F62A, F62B of index episode, not risk adjusted. Department of Health and Human Services, Feb 2015

<sup>2</sup> Health Innovation and Reform Council: Readmissions working group report (2013)

<sup>3</sup> National Heart Foundation of Australia. A systematic approach to chronic heart failure care: a consensus statement. Melbourne: National Heart Foundation of Australia, 2013.

<sup>4</sup> National Heart Foundation of Australia: Heart failure fact sheet Retrieved from [www.heartfoundation.org.au/images/uploads/publications/HF-Fact-sheet-02-Heart-Failure.pdf](http://www.heartfoundation.org.au/images/uploads/publications/HF-Fact-sheet-02-Heart-Failure.pdf)

<sup>5</sup> Health Innovation and Reform Council, Presenting the data considered in preparation of advice regarding improvement to unplanned readmission performance in Victoria [www.health.vic.gov.au/hirc](http://www.health.vic.gov.au/hirc) (2013)

<sup>6</sup> National Heart Foundation of Australia: Key heart stats 2016

<sup>7</sup> Australian Institute of Health and Welfare (AIHW), National Hospital Morbidity Database 2012/2013

<sup>8</sup> Telstra Health, Quality Investigator tool. Congestive heart failure, non-hypertensive 30 day readmission analysis, Data source: VAED July 2012 to June 2015. Report generated Jan 2016

<sup>9</sup> National Heart Foundation of Australia, Key Heart Stats – 2015

<sup>10</sup> Australian Bureau of Statistics. Australian Health Survey 2011/12

<sup>11</sup> Heart Foundation of Australia. Key cardiovascular stats (Victoria) – 2015

<sup>12</sup> National Heart Foundation of Australia. Heart maps. <http://heartfoundation.org.au/assets/HeartMaps/VICMaps/full/StatPlanet.html> Aggregated heart failure Standard Morbidity Ratio's (SMR's) (O/E) (2007-2013 VAED)

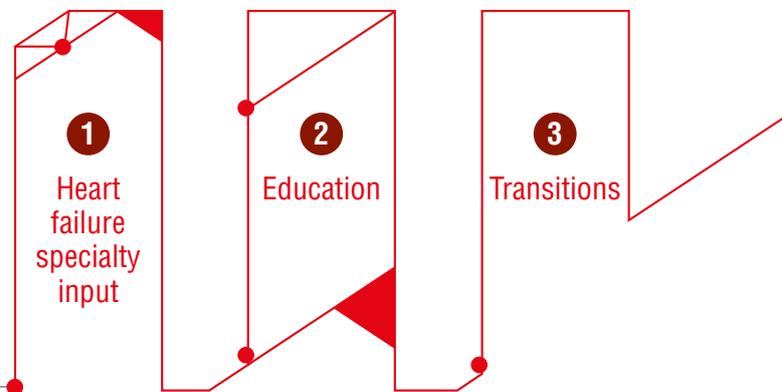
<sup>13</sup> Charlson ME, Pompei P, Ales KL, et al. A new method of classifying prognostic comorbidity in longitudinal studies: Development and validation. J Chronic Dis 1987;40(5):373-383

# The toolkit in brief

Heart failure is a life-threatening and debilitating disease. Globally, it is reported that approximately 26 million people worldwide are living with heart failure.<sup>14</sup> In Victoria, data indicate that the prevalence of heart failure is close to one-quarter of a million.<sup>15</sup>

Chronic illness, by its very nature, may lead to frequent hospital admissions because of the complexity of the management of the disease throughout its progression.<sup>16</sup> For this reason, many hospitals and health care systems across the globe have turned their attention to how better management of heart failure can prevent readmissions, decrease costs and improve the overall quality of care being delivered to patients. The Victorian Department of Health & Human Services has joined this fight.

Three pillars of heart failure optimisation and a framework displaying these pillars in action, provide the basis for heart failure clinical process redesign.



## An area in need of innovation and reform

In 2014, the Victorian Government, through the Health Innovation and Reform Council, undertook a review of health service readmission data as they relate to heart failure. The analysis showed a disparity among health service providers, with 30-day readmission rates ranging from 13% to 33% across Victoria.

In response, the Department funded a project titled 'Reducing heart failure readmissions', which was initiated in late 2014 and led by the Heart Foundation – Victoria. Over the following 12 months, an extensive consultation process was undertaken and mediated by the Heart Foundation. The findings from this process have now been distilled into this toolkit.

The Heart Failure Readmissions Toolkit provides health services with a targeted approach to addressing readmission rates and decreasing variation in care. Three pillars of heart failure optimisation and a framework displaying these pillars in action, provide the basis for heart failure clinical process redesign. The essential role of using performance data to drive quality improvement provides a solid foundation on which these pillars rest, to ensure that opportunities exist for benchmarking and ongoing quality improvement.

Central to its design, and the first of its type here in Victoria, we introduce the International Consortium for Health Outcomes Measurement (ICHOM) standard outcomes set for patients with heart failure. This series of measures designed to facilitate and deliver value-based care is gaining worldwide interest and support.

The Heart Foundation and the Victorian Government anticipate that the interventions provided here will produce important outcomes in the area of heart failure readmissions. This, along with broader cardiac services system reform and a strong focus for measurable patient outcomes and patient experience under Better Care Victoria, will ensure that now is the time to reignite and/or consolidate efforts in improving outcomes for patients living with heart failure.

Rather than looking to others to drive change, there is a responsibility for health professionals and hospital leaders to step up and embrace this opportunity for system reform. The greatest change is achieved when there is real collaboration to connect, share and redesign how we do things – only then can we achieve true transformational change.

# What do we hope to achieve?

Heart failure care that is:

## Person centred

A heart failure system guided by person-centred care principles, and focused on enhancing person-centred outcomes to deliver value-based heart failure care

## Driven by information

A heart failure system built on evidence-based best practice, and informed by patient, carer and clinicians alike, which aims to deliver a targeted and measurable approach to addressing heart failure readmission rates

## Designed for safety

A heart failure system that uses information to minimise unwarranted variation by promoting benchmarking and ongoing quality improvement



The Australian Safety and Quality Framework for Health Care specifies three core principles for safe and high-quality care<sup>17</sup>

**VISION** to deliver a patient centred, informed, targeted and measurable approach to addressing heart failure readmissions within the acute setting whilst encouraging healthcare providers to connect, share and champion innovation

# How have we gone about doing this?

*we have:*

*in order to:*

Sought widespread heart failure expertise across the entire care continuum	Provide oversight and guidance in the development of the toolkit
Learnt from patients living with heart failure	Develop a series of <b>Patient-centred Care Principles</b> to guide system redesign
Partnered with international leaders in value-based health care	Inform the development of a series of <b>patient-centred outcome measures for heart failure</b>
Worked extensively with hospital leaders, including executives, department heads, and quality and heart failure specialty groups	<b>Better understand the challenges, gaps and barriers</b> impacting on readmission rates
Engaged with public and private hospitals	<b>Share innovation in heart failure care</b> through case study examples and resources
Brought together existing resources	<b>Minimise duplication and promote standardisation</b> in heart failure system improvement
Undertaken a comprehensive literature review	<b>Learn from what has worked well elsewhere</b> and how we can best use this knowledge
Worked with national private quality improvement providers	Inform the development of a <b>clinically meaningful heart failure readmissions scorecard</b> using the Victorian Admitted Episodes Dataset (VAED)
Used redesign methodologies	<b>Guide health service implementation</b> of the toolkit
Combined all of the above	<b>Propose three heart failure optimisation pillars</b> to address 30-day readmission rates
	Develop a <b>framework for heart failure redesign</b> based on the above
	<b>Draw attention to meaningful and worthwhile measures</b> based on clinical, patient and system level outcomes

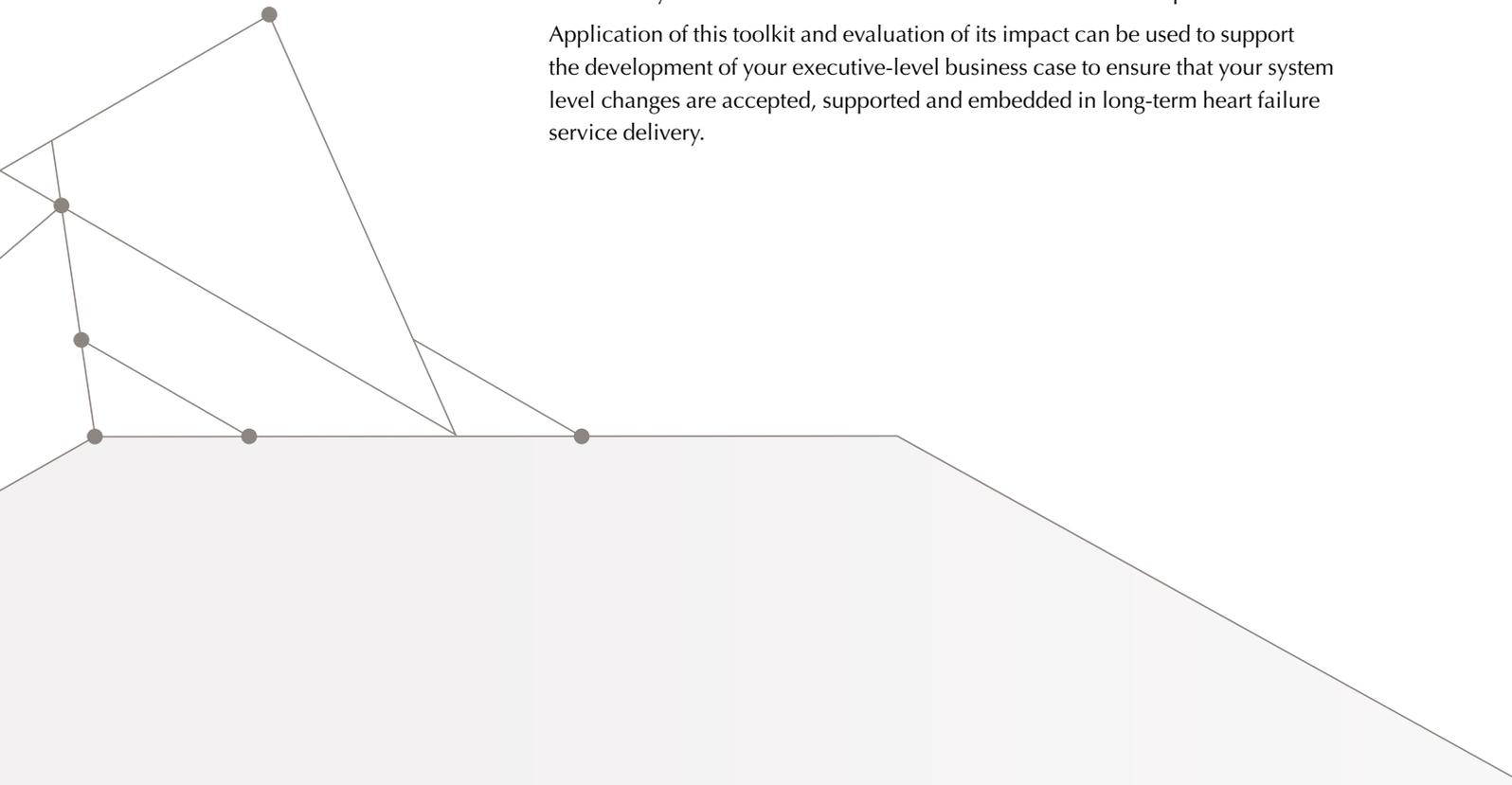
**Result:** A locally relevant, globally informed resource to reduce heart failure readmission rates and guide heart failure system optimisation within the Victorian healthcare setting

# Who is the toolkit for?

This document is designed for any health service clinician, hospital executive and manager, or leader in quality with a desire to look more closely at the system and service they offer their heart failure patient. It requires a **willingness to collaborate** and to be open to new ideas, a **commitment** to reducing heart failure readmissions and, most importantly, a **desire for change**.

Every health service is different. Resources, size, location, funding and volume of heart failure patients all play a part in influencing the care that is able to be delivered. This toolkit is designed to be flexible to suit your individual needs and circumstances, but directs you towards what to aim for to achieve heart failure optimisation.

Application of this toolkit and evaluation of its impact can be used to support the development of your executive-level business case to ensure that your system level changes are accepted, supported and embedded in long-term heart failure service delivery.



# How you can put the toolkit into action

The following three sections will inform and support your next steps.

**Delivering patient-centred care** guides you through understanding, delivering and measuring heart failure care in light of patient-centred outcomes. Locally relevant patient-centred care principles and recently developed, internationally validated patient-centred outcome measures for heart failure come together to ensure that the patients' needs remain central to your redesign efforts.

## Action:

Use these principles to guide your redesign efforts. Capture and evaluate patient-centred outcome measures to ensure that you can objectively demonstrate gains have been made in areas that matter most to the patient. Use this information to inform local and more widespread benchmarking.

**Information to drive change** incorporates Lean Sigma Six redesign principles to address local health services' biggest challenges thought to be impacting on readmissions rates. It brings together this information, along with key evidence-based findings, to distil a series of **heart failure readmission – optimisation pillars** to prioritise health service interventions. These pillars are explored in more detail and used to propose a heart failure system redesign framework.

The role of data is highlighted as the foundation for supporting these pillars and data's role in driving ongoing quality improvement is further explored.

## Action:

Look for opportunities to implement the heart failure system redesign framework in your own setting.

Build your understanding of your own systems, and develop targeted interventions through the capture and use of relevant clinical, patient and system level data along with state-wide readmissions data.

Look out for key resources and case study examples where you can pick up relevant tools and learn how your peers have implemented interventions to reduce readmission rates and optimise heart failure care.



**Implementation, the barrier to innovation** recognises that testing clinical process redesign can be complex. It requires strong program and change management oversight to move the initiative through a series of redesign phases. Health services are guided through understanding the elements for successfully implementing and sustaining change, and how these might support their heart failure clinical process redesign efforts.

## Action:

Use the information within this toolkit to reflect on your own heart failure service and systems to challenge the status quo, and explore opportunities to test quality improvement interventions.

*Clinical process redesign is not about changing spots on the leopard but about “unleashing” the suppressed potential of the Australian health care system.<sup>18</sup>*



### Your role

Whether you are a hospital executive or manager, health service clinician or leader in quality, we urge you to use the information in this toolkit to reflect on your own systems of care for heart failure patients. Be guided by the heart failure patient-centred care principles, outcome measures and redesign pillars as you become a champion in reducing readmission rates and optimising heart failure care.

# Section 1

Delivering patient-centred care



# Patient-centred care principles<sup>20</sup>

As a patient with heart failure I value...

## Access

*this means...*

### To be seen quickly

- Being given the attention when I need it
- My presentation is seen as important and there is a clear path as to where to next

## Respect

*this means...*

### To have my needs understood and respected

- People involved in my care try to better understand what is important to me and work with my physical and psychological needs

## Communication

*this means...*

### To be spoken to about my condition

- I\* am spoken to early about what is happening to my heart
- I\* receive consistent messages about my care and condition
- I know who to speak to when I need more information or help
- The language people use and the information I am given makes sense to me

\*and/or my carer/family

## Help with Understanding

*this means...*

### To be helped to better understand my condition

- I have had the opportunity to talk to someone and have my questions answered when I am ready to understand and learn more
- I am guided in understanding my condition and the immediate and ongoing care I need
- I am reassured and helped to understand any changes in my physical limitations and lifestyle impact

## Information

*this means...*

### To be given appropriate information and resources at the right time

- I am given friendly appropriate information and resources that help me understand and monitor my condition once home
- I know what signs to look for that may mean I am unwell and should seek help
- I have a clear understanding of when and who I should call if my condition changes or I am concerned
- I understand my medicines and why I need to be taking them

## GP Communication

*this means...*

### To know that my GP has been communicated with

- My GP knows that I have been in hospital and what they need to do to continue my care
- I know when my next GP appointment needs to be
- I am confident that my GP and my heart specialist are working together to help me improve my health

## The Human Element

*this means...*

### To receive kind, caring, supportive and genuine care

- I value knowing that there is someone who I can identify to provide reassurance and support throughout my care

# Delivering patient-centred care

Patient-centred care is health care that is respectful of, and responsive to, the preferences, needs and values of patients and consumers.<sup>21</sup>

**Understanding the outcomes that matter most** to the patient with heart failure provides the first step for health services to deliver on this definition.

**Validating these outcomes** across the globe ensures that they are universally accepted and relevant to both patients and carers worldwide.

**Defining the measures** and the tools to capture them ensures that reporting is reliable and consistent to promote benchmarking and ongoing quality improvement.

## Leading the way in value-based health care

The International Consortium for Health Outcomes Measurement (ICHOM) is leading the way in developing and working with patients, carers and healthcare providers worldwide to define, validate, disseminate and implement the patient-centred outcomes set for heart failure. This set defines a series of Patient-Reported Outcome Measures, which fall under four domains of care:

1. Survival and disease control
2. Burden of care
3. Functioning
4. Psychosocial.

## The Process

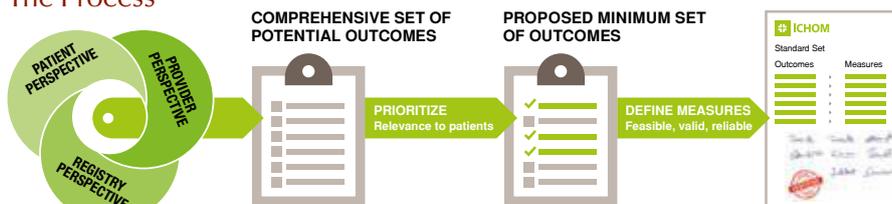
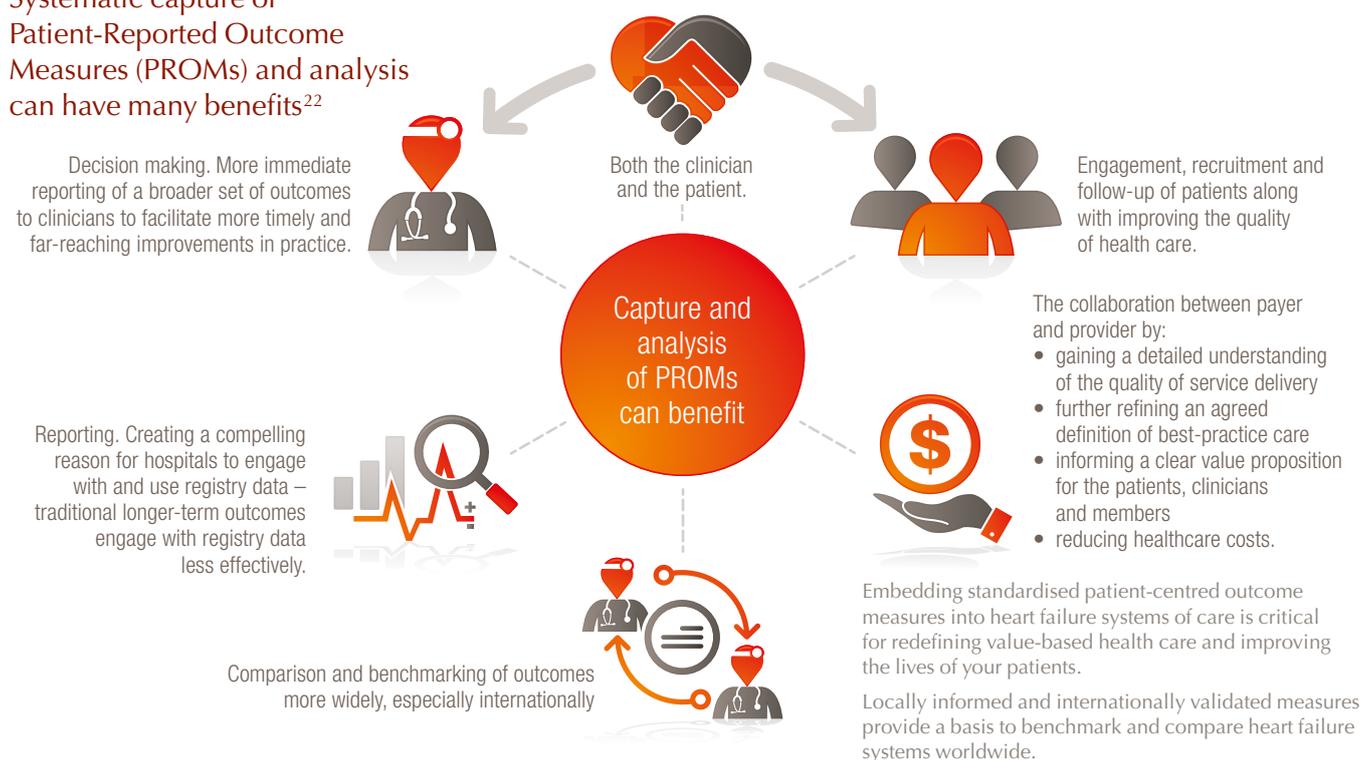


Figure 1: The process to develop the ICHOM Standard Set for heart failure has taken 10 months (international launch May 2016) (ICHOM, 2016)

Figure 2:

## Systematic capture of Patient-Reported Outcome Measures (PROMs) and analysis can have many benefits<sup>22</sup>



# Heart failure standard outcome set

The ICHOM Standard Set for heart failure represents the outcomes that matter most to patients with heart failure.



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## Details

- 1 Includes dyspnoea, fatigue and tiredness, disturbed sleep, and peripheral oedema.
- 2 Includes health-related quality of life, maximum physical exertion.
- 3 Includes depression and anxiety, confidence and self-esteem.
- 4 Includes complications, medication side-effects.
- 5 Includes admissions, appointments.

## Reference Guide

A complete overview of the ICHOM Standard Set, including definitions for each measure and selected PROM instruments, time points for collection, and associated risk factors will be available at [www.ichom.org](http://www.ichom.org) from May 2016.

# What to measure

Evaluate your heart failure system of care to include/reflect patient-centred outcome measures to ensure you are delivering care that matters most to the patient.

## Summary of HF Standard Set

● Patient reported ● Clinician reported ● Administrative

	Outcome Domain	Tool / Measurement Method	Total time for data collection (min):
Functional	Maximum level of physical exertion	KCCQ-12, NYHA	1. KCCQ-12* – 3 min 2. NYHA – 1 min 3. PROMIS – 1 min 4. Administrative data – N/A *License required
	Living independently/self-care	PROMIS independent measures, KCCQ-12	
	Employment/ability to contribute to society	KCCQ-12	
	Symptom control: SOB	KCCQ-12, NYHA	
	Symptom control: Fatigue and tiredness	KCCQ-12, NYHA	
	Symptom control: Disturbed sleep	NYHA	
	Symptom control: Peripheral oedema	KCCQ-12	
Psycho-social	Health-related QoL	KCCQ-12	
	Depression and anxiety	PHQ-2	
	Confidence/self-esteem	KCCQ-12	
Burden of care	Medication side-effects	Y/N questions	
	Financial burden	Y/N questions	
	Number of hospital appointments	Administrative data	
	Number of hospital readmissions	Administrative data	
	Length of stay	Administrative data	
	Complications of treatment	Administrative data, Y/N questions	
Survival	Mortality	Administrative data	

KCCQ-12 – Kansas City Cardiomyopathy Questionnaire-Short Version

NYHA – New York Heart Association Functional Classification

PROMIS – Patient-Reported Outcome Measurement Information System

Admin – Administrative data

PHQ-2 – Patient Health Questionnaire-2

Y/N questions – As developed by Working Group

## Summary of time points for data collection: Example



T<sub>0</sub> Index event for Heart Failure (first clinical encounter since entry to the Set or new diagnosis)

◆ Baseline characteristics

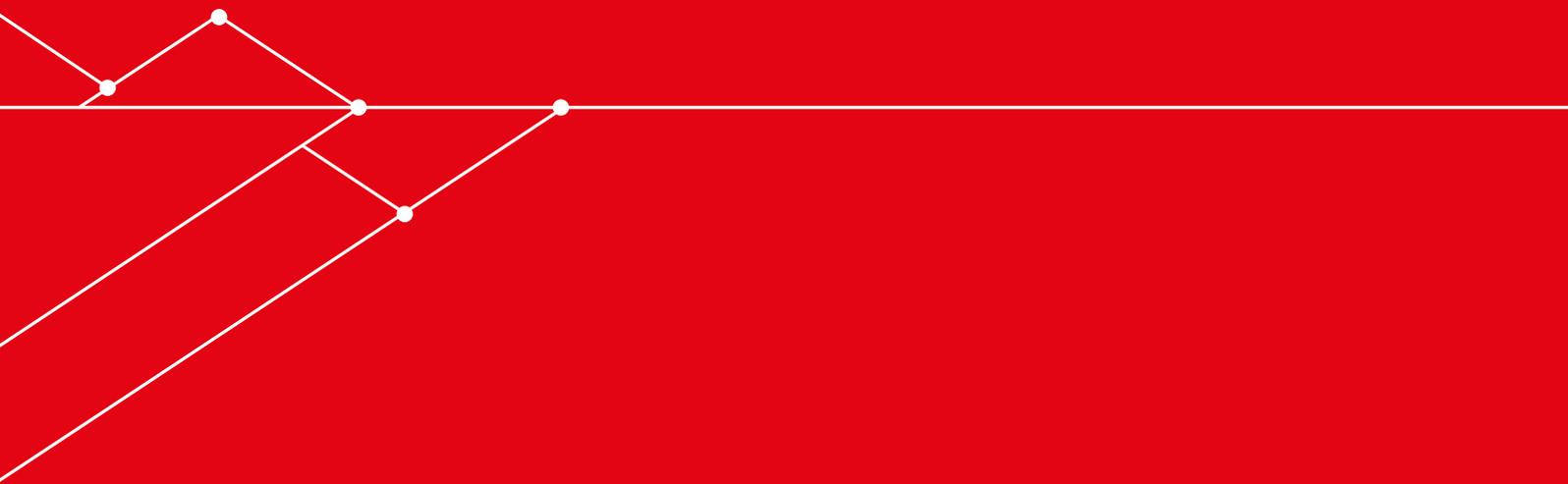
● PROMs (patient reported outcome measures) – KCCQ-12 + PROMIS + PHQ-2

■ Clinician reported outcomes – NYHA



# Section 2

Information to drive change



# Information to drive change

For many, the solution to reducing 30-day heart failure readmission rates has proven to be elusive. No one intervention has been found to be solely effective in reducing readmission rates for heart failure patients.<sup>23</sup> Learning from others to better understand the barriers, gaps, challenges and successes is paramount in being able to prioritise heart failure system redesign efforts.

## The key challenges impacting on heart failure readmissions<sup>a</sup>

**Heart failure patient identification** – knowing where within the hospital the heart failure patients are at any point in time and who is responsible for their care

### Education

**Staff** – ensuring there is consistency in the evidence based information provided to patients

**Patient** – ensuring the patient has truly understood their information and can translate it into action

**Transitional care** – ensuring information is transferred with the patient (clinical hand-over) so that care is seamless

**Discharge processes** – ensuring that appropriate referrals are made and that the management plan is communicated effectively to support continuity of care

**Post-discharge follow-up** – ensuring that the management plan is being implemented and meeting the needs of the patient. Being able to make adjustments to the plan as required.

## Our greatest chance at reducing readmissions<sup>23</sup>

Clear care pathways

Guideline-based treatment – education and transitions

A suite of quality improvement initiatives

Dedicated heart failure unit

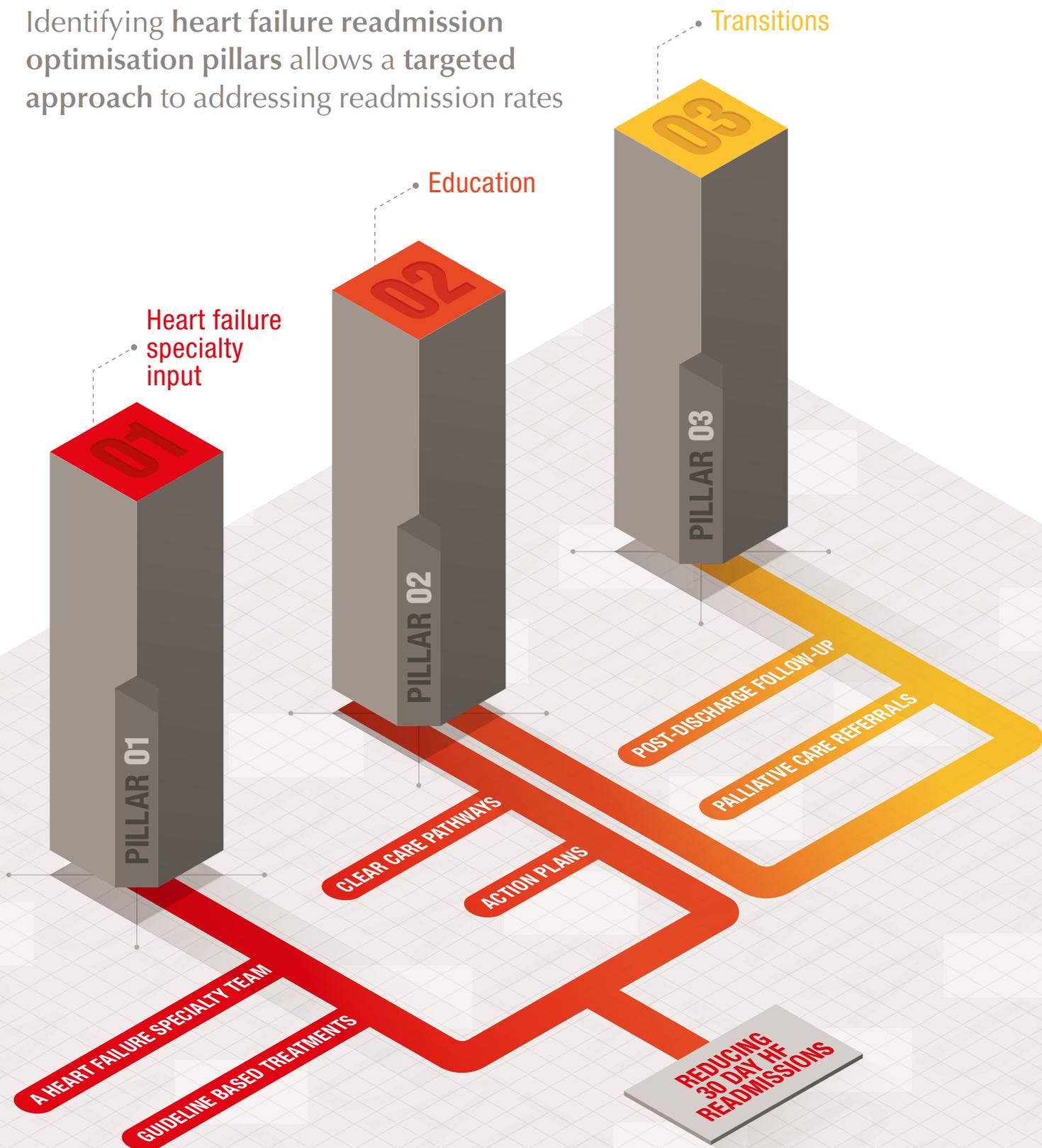
A specialist heart failure team

**result:** Collectively our investigations have resulted in a series of three heart failure optimisation pillars

<sup>a</sup> As identified from *heart failure readmissions* – internal working group meetings held within health services across Victoria as part of the HIRC project.

# Heart failure optimisation pillars

Identifying heart failure readmission optimisation pillars allows a targeted approach to addressing readmission rates



# Heart failure specialty input

## The problem

The complex nature of heart failure patients – along with the pressures on health services – can mean that a patient admitted into hospital can be managed under multiple units and overseen by varying specialists. As a result, timely access to pathology and diagnostic tests, along with the application of evidence-based guidelines, can vary significantly among patients, which impacts on diagnosis and treatment pathways.

## The solution

To ensure care that is equitable, timely and of high quality:

1. Provide early heart failure specialty input by offering a **Heart Failure Service** within your hospital, which is made up of a multidisciplinary heart failure specialty team<sup>b</sup>.
  - a. The use of this resource should be guided by an informed patient risk-stratification assessment, with outcomes linked to intervention strategies appropriate to a patient's level of risk (Figure 3). This approach is the basis for facilitated care coordination programs such as the Health Independence Program (HIP) (Figure 4).

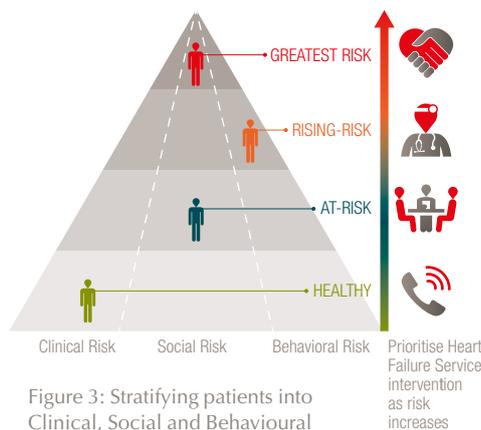
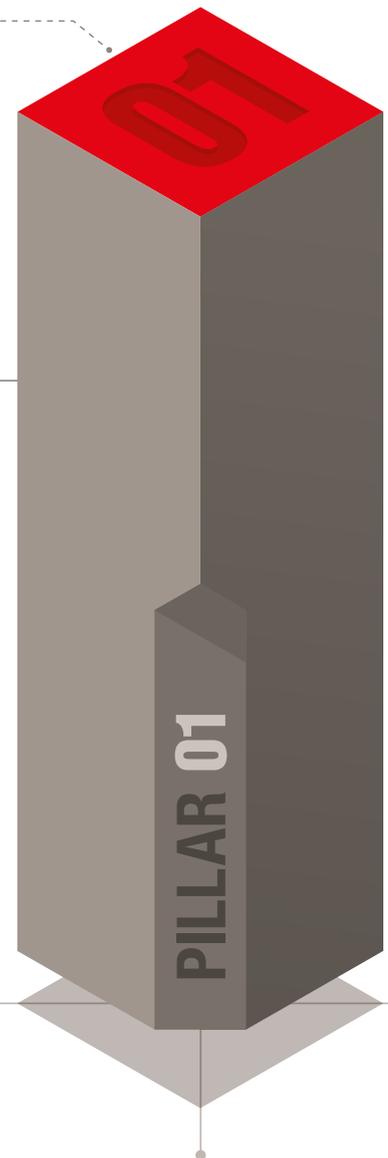


Figure 3: Stratifying patients into Clinical, Social and Behavioural risk levels directs the use of finite resources<sup>24</sup>



## The benefits – why offer a service?

### A service

- provides a consistent approach to managing the heart failure patient according to best-practice guidelines
- builds collaboration, knowledge sharing and training opportunities among specialty groups
- allows a means to track the whereabouts of all heart failure patients across all admitting units
- ensures consistency of
  - diagnosis and treatment interventions – appropriate pathways
  - patient and carer education
  - management during subsequent admissions
  - access to post-discharge support and referrals, including early palliative care
  - systems for reducing readmissions.

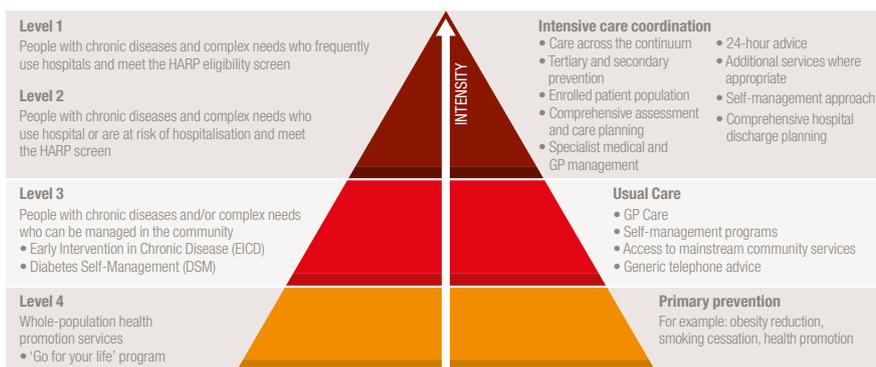


Figure 4: Health Independence Program service delivery pyramid<sup>25</sup>

<sup>b</sup> Aim for a dedicated specialty heart failure team that is based on a cardiology ward and provides consulting services throughout the hospital. The service finds and follows the patient. Members should include a heart failure cardiologist, a general physician a heart failure nurse or nurse practitioner (as the first point of contact), a dietician, a pharmacist and a physiotherapist.

### Consider the following measures when addressing this pillar:

- A heart failure service consult is to take place within 24-48 hours of admission regardless of where the patient has been admitted.
- There is medication reconciliation within 24-48 hours.
- A heart failure cardiologist or a heart failure nurse is available for inpatient consultations Monday to Friday.

# Education

## The problem

is two-fold

### 1. Patient and carer education and understanding

The amount of new information and resources provided to patients and/or their carers during a heart failure admission can be overwhelming. While the delivery of heart failure patient education often takes place throughout their hospital stay, it can be challenging for patients to fully understand this information and apply it once discharged from hospital. This can leave patients unclear as to the next steps in their care and the plan of action should an exacerbation occur.

### 2. The delivery of consistent evidence-based information by hospital staff

Bed-side nurse knowledge about heart failure education delivery and heart failure care can vary across health services and units. Patients with heart failure have reported a lack of, or inconsistent, messaging during some hospital stays.

## The solution

### When dealing with patients with heart failure:

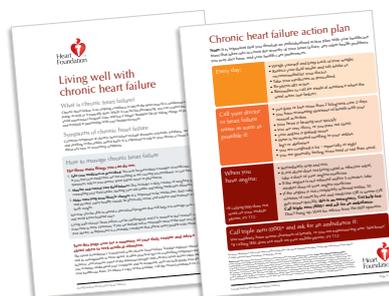
- work to understand a patient's health literacy, and use this understanding to guide the delivery of heart failure education and resources
- use 'teach back' techniques to ensure the patient and/or carer understand **key heart failure information** before discharge and are able to apply these into action, including:
  - activating a heart failure action plan for worsening symptoms
  - implementing daily activities (daily weighs, exercise, fluid and salt restrictions)
  - taking medications appropriately
  - managing their follow-up.

### To ensure consistent messaging:

- build a suite of reliable heart failure education material and resources within your health service, and promote the use of these resources to all health professionals delivering heart failure education
- where possible, engage members of the heart failure specialty team to deliver heart failure patient education.

### The education safety net:

- Ensure that an education and understanding 'safety net' is in place soon after discharge, which provides an opportunity to revisit key heart failure information. This could take place during the first clinic visit, in the patient's home or as a follow-up phone call. Use this time as an opportunity to assess if the heart failure action plan is working and meeting the patient's needs.
- Consider establishing a set of patient core competencies to confirm that this information has been clearly understood. Building patients' competency in self-management should be seen as a continuous process that begins in hospital, is reinforced in ambulatory care and is maintained in primary care.

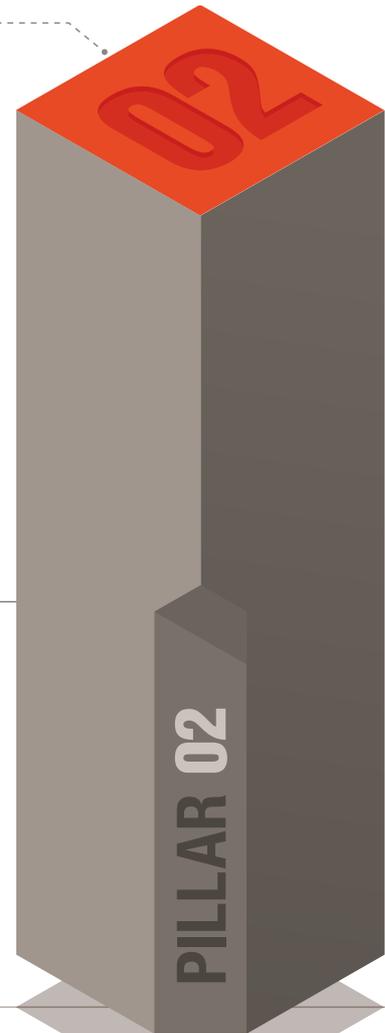


The Heart Foundation's 'Living well with chronic heart failure' information sheets come in 17 different languages.

### Consider the following measures when addressing this pillar.

Before or within 2-3 days of discharge, confirm a patient's understanding of:

- their heart failure action plan to assist in identifying worsening symptoms and their management
- their medications and how to take them
- activities to maintain heart function (fluid restrictions)
- their follow-up management, including GP appointments, clinics, bloods and echo.



## The benefits

Delivering consistent, tailored information in an environment when a patient is most receptive increases the likelihood of not only retaining this information, but translating it into action.



The Heart Foundation produces several resources to support the education and management of patients living with heart failure.

# Transitions

## The problem

Transitioning the patient out of the acute setting can present many challenges. Follow-up appointments with post-acute care providers and the timeliness of these appointments are key to ensuring a smooth transition for the patient. However, these appointments are not always confirmed before discharge. GP communication that includes succinct, clear instructions on what to do next is often lacking and/or lost among lengthy discharge summaries. Knowing what to do next, including where to turn to should there be an exacerbation, is crucial for post-acute care providers, patients and carers alike.

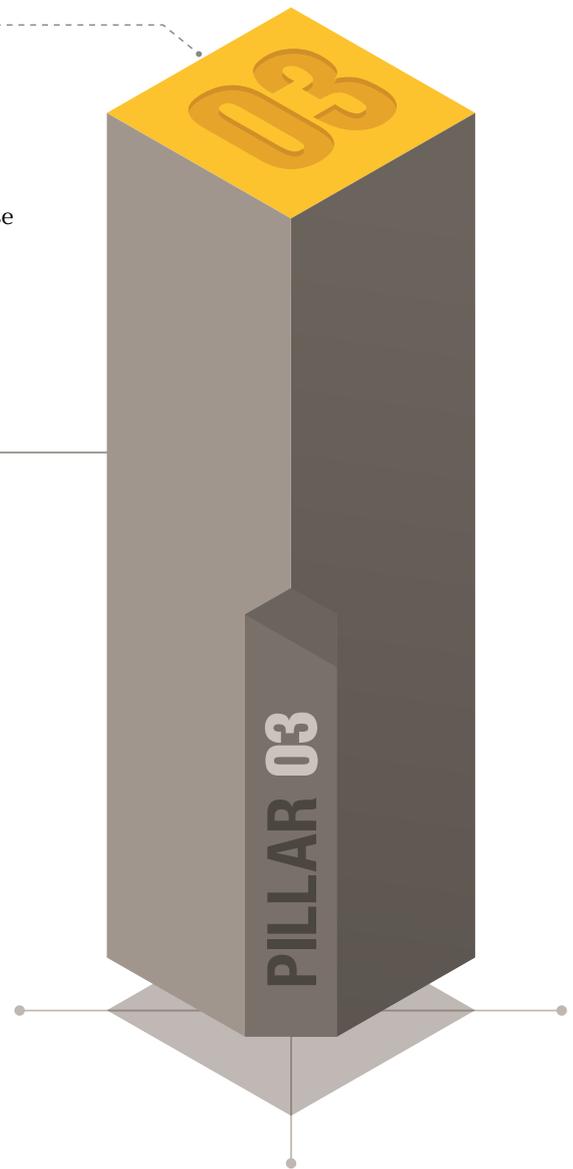
## The solution

### Enhance transitional care by:

- ensuring patients undergo an efficacious discharge where
  - a heart failure action plan is finalised
  - medication reconciliation is undertaken
  - home-based visit (or phone call) is booked
  - a discharge summary is provided to the patient
- ensuring systems are in place to formalise the relationship with post-acute care providers whereby
  - a GP follow-up appointment is booked
  - a discharge summary is complete and received by the GP, which contains a succinct action-based heart failure care plan to guide the health professional's next steps
  - mechanisms are in place to better support general practice in the care of the heart failure patient (e.g. through education and rapid access to heart failure advice and expertise)
  - hand-over to post-discharge care professionals, including the enrolment in post-discharge multidisciplinary management programs, has been confirmed
  - timely and appropriate access to palliative care services have been considered
  - referrals to local government aged care and support services are in place
  - if relevant, the need for support service for a patient's carer has been assessed and appropriate links to support services are in place.

## The benefits

Successful discharge planning, resulting in a smooth transition out of hospital, is crucial to ensure the patient stays healthier in the community for longer. Having the right support mechanisms in place before discharge safeguards the patient against potentially avoidable readmissions.



### Consider the following measures when addressing this pillar:

- medication reconciliation on discharge
- home-based visit (or phone call) by heart failure nurse arranged within 2-3 days post discharge
- heart failure action plan finalised
- access to rapid heart failure specialist review should be made available to GPs to reduce dependence on emergency departments.

*The literature has repeatedly demonstrated the value of comprehensive discharge planning on decreasing readmissions and lowering overall cost per patient.<sup>26</sup>*



## Case Study

**Using Cerner Care to improve heart failure patient management**  
Doug Johnson, Head of General Medicine and Infectious Diseases, Austin Health

PILLAR

01

Austin Health manages approximately 70% of its heart failure patients through the General Medicine Department. Because of the routine introduction and turnover of new registrars, it was identified that there was scope to provide clear and consistent guidance around heart failure clinical workflow and management to decrease variation in care. With input from its heart failure multi-disciplinary care team and support from the hospital's executive change

management committee, Austin Health invested in the development and implementation of the Cerner Heart Failure Care set to:

- improve evidence-based best practice for heart failure
- standardise care
- streamline the referrals to other services that the hospital offers to heart failure patients.

Once a patient is admitted with heart failure, the physician is able to click on

the heart failure care set offered through its Patient Management System (Cerner). This allows the clinician to select from a series of automated options, including nursing orders, medications, heart failure education material (and on which wards this can be found) and referrals to specialty care. The heart failure care set has been well received by clinicians and is transforming the way that heart failure is managed at the Austin.



## Case Study

**Implementing a stepped approach to delivering tailored heart failure patient education**  
Ms Debra Gascard, Chronic Disease Nurse Practitioner, Monash Health Community, Monash Health

PILLAR

02

Our role with Monash Health Community means that we get the opportunity to visit heart failure patients in their homes, ideally within 3-4 days of discharge from hospital. What we've found is that this can sometimes be the first time that the patient and/or their families are truly receptive to receiving information about their condition. We start by talking through what they

know about their time in hospital and their general understanding of the healthcare system. Their responses guide us in choosing the appropriate level of health literacy heart failure resource to use next. The two key resources we use are the Heart Foundation's *Living well with chronic heart failure* and the *Living everyday with my heart failure* for those we feel have a lower health literacy.

We work our way through the resource page by page, letting the patient summarise its content. We sometimes also refer to the Heart Failure Matters website, which has some helpful narrated animations to help with our explanation. At the very end, if necessary, we revisit the action plan and make sure that it's up to date and understood.



## Case Study

**Using the Cabrini Patient Cardiac Passport to support good care transitions**

Lauren Barker, Manager Malvern Allied Health and Ambulatory Services, Cabrini Health on behalf of the heart failure working group

Cabrini Hospital Malvern have developed the Cabrini Patient Cardiac Passport, which serves as a pocket-sized resource to ensure continuity of care once the patient leaves the hospital. It captures essential patient information, history, medications, investigations (date undertaken and the result), follow-up appointments and handy telephone numbers.

The passport is generated as part of the patient's admission to the Cath Lab, short stay or the cardiac ward, and is the nursing staff's responsibility to keep it updated and use it as a learning tool with the patient during their stay.

It is the discharge nurse's responsibility to ensure completion of the cardiac passport; this information is documented in the medical record. However, it does not negate the completion of the 'nursing discharge summary'. At discharge, the



patient is educated to keep their passport with them at all times; ensure it is updated with any changes in care or treatment; and present it in the event of any emergency presentations, GP and specialist consultations, or readmissions.

### Heart failure palliative care

Vikki Hannah, Heart Failure Nurse, Northern Health

Northern Health's heart failure (HF) care model supports patients through the HF journey, from early diagnosis to end-stage palliative care.

Currently, Northern Hospital's emergency department (ED) transfers end-stage HF patients to the Broadmeadows Health Service (BHS) palliative care or medical unit for symptom management. These patients and their carers find the

PILLAR

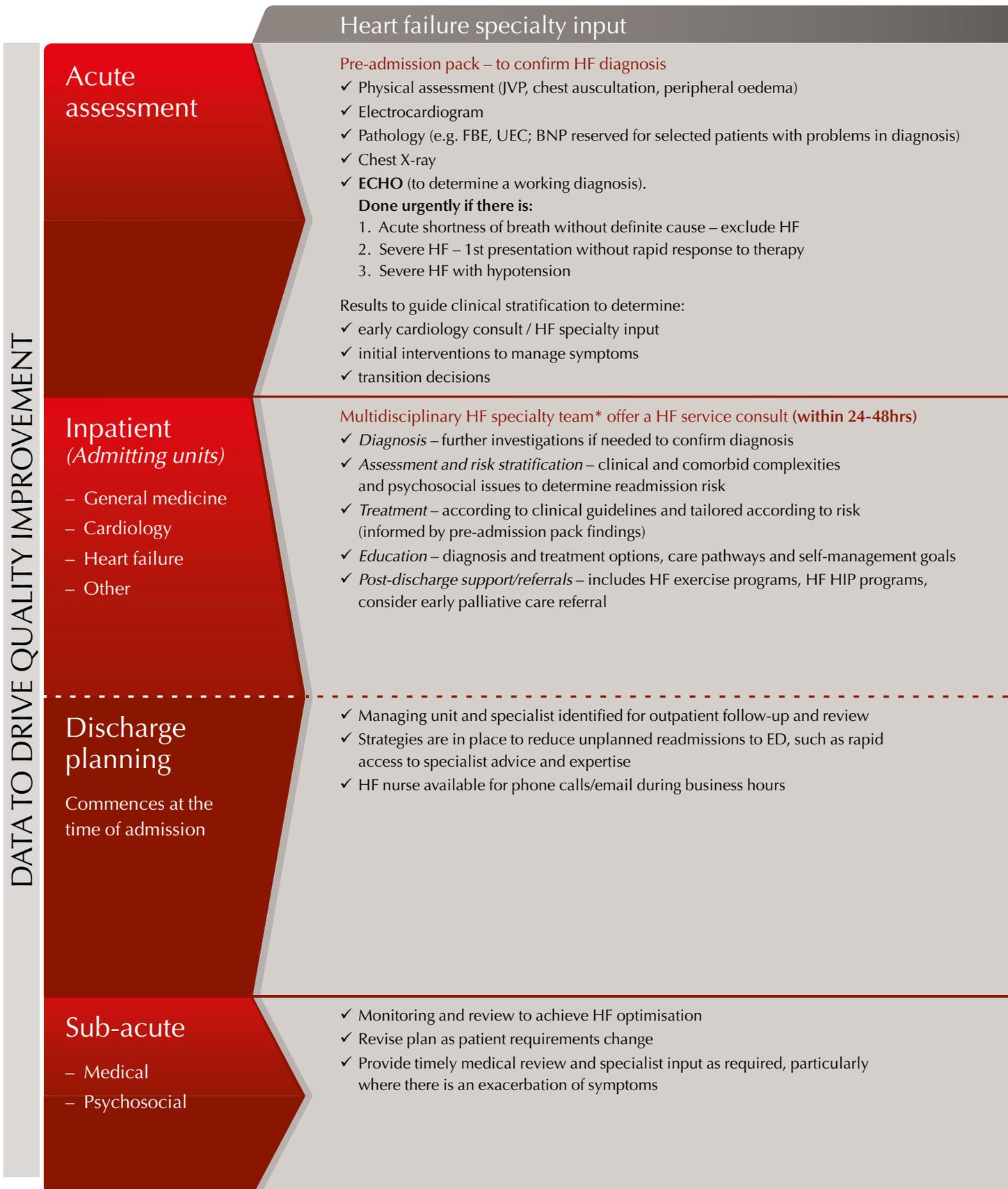
03

ED experience stressful because of the busy environment. Our goal is to avoid ED presentation by having a referral pathway for HF patients that are identified as end-stage or palliative care. The proposed criteria for admissions to BHS medical and palliative care beds are patients that have:

- more than three presentations to ED or admissions to hospital with HF in the past 6 months
- optimal treatment for end-stage HF
- an advanced care plan/MOEPOA/refusal of treatment plan in place
- not for CPR or intubation
- an action plan for the HF, with clear treatment goals
- patient/carer consent for ongoing care at BHS.

To finalise the referral pathway criteria, work with several groups is ongoing, including a COPD nurse specialist; BHS nursing, medical and allied health teams; executive and palliative care teams; community palliative care; the ED; and cardiology, respiratory and general medicine clinicians.

# Heart failure optimisation



# The pillars at work across the acute setting – the heart failure system redesign framework.

Solution-based framework for addressing heart failure readmission rates across the various components of acute care.

## Action:

Use this framework as a guide when prioritising heart failure readmission interventions to ensure heart failure optimisation.

### Education

#### Patient/carer understands:

- ✓ Initial findings
- ✓ Next steps and follow-up plan – inpatient admission or discharge from the ED to GP or HF HIP program

### Transitions

- ✓ Clinical handover for patients being admitted to:
  - inpatient admitting unit
  - HF HIP programs – for patients with confirmed heart failure needing inpatient review and follow-up
- ✓ Clinical handover for patients being discharged from ED
  - GP
  - community support services (e.g. Aged Care Assessment Services, Royal District Nursing Service)
  - consider actions outlined in discharge planning component, below

#### Patient/carer understands:

- ✓ Diagnosis and treatment options
- ✓ Care pathways
- ✓ Self-management goals and their importance in preventing readmissions
- ✓ Their HF point of contact for advice post-discharge (often the HF nurse)

- ✓ Clinical handover between units and specialties

#### Patient/carer understands:

- ✓ HF action plan (euvolemic/dry weight, fluid, salt)
- ✓ Medications
- ✓ Recognition of worsening symptoms and their management – patient action plan
- ✓ The importance of attending all follow up appointments made for them (GP, clinics, community, bloods, echo)

Where possible ALL appointments are to be made before the patient leaves hospital. Avoid sending out appointments later or expecting the patient to organise it themselves.

#### Patient

- ✓ HF action plan finalised
- ✓ Medication consultation
- ✓ GP follow-up booked
- ✓ Home-based visit (or phone call) by HF nurse arranged **within 2-3 days** postdischarge
- ✓ Discharge summary provided

#### Health Service

- ✓ Discharge summary complete, and provided to the GP and patient
- ✓ Succinct **action-based** HF care plan included in summary (e.g. GP to increase drug A to x mg in the next 2 weeks if renal function stable)
- ✓ MDT follow-up arranged **within 7 days** for clinic review

#### Patient follow up

- ✓ Patient self-management reviewed
- ✓ Support areas are identified and addressed, and relevant services are engaged
- ✓ Ensure the plan is working and meeting patient needs
- ✓ Regular review with their GP

#### MDT support

- ✓ Outpatient – HF clinic, cardiology, general medicine
- ✓ Home-based transitional support (HIP, HF nurse, transitional coach, telemedicine)
- ✓ Community health services
- ✓ Other – HF exercise program, timely referral to palliative care
- ✓ Refer to local government aged care and support services to provide assistance with activities of daily living
- ✓ Regular GP review

## AIM of this component in reducing heart failure readmissions

- Timely access to diagnostic tools such as echo and comprehensive pathology to aid in early diagnosis
- Educate staff – nurses, junior and senior emergency department (ED) staff in heart failure (HF) diagnostics and early management strategies
- Provide clear discharge pathways from ED, such as rapid echo service, clinic review within 7 days, use of HF HIP for diuresing patients
- Ensure that the patient/carer understands their diagnosis (and follow-up plan if discharged)
- If discharged, provide GP with useful information to guide ongoing management

- Ensure specialist HF input has been accessed
- Where possible, colocate HF patients within the hospital to aid in better day-to-day care and facilitate consistent patient education
- Refer early to a HF nurse to initiate education of patient and family
- Ensure clarity about inpatient goals, to achieve a successful discharge (e.g. achieving euvolemic weight, renal function, treatment of anaemia and managing comorbidities)
- Provide confirmation of diagnosis where necessary

- Ensure medical therapies are evidence based and that a plan for further optimisation is communicated to transition care teams
- Complete diagnostic investigations or procedures that are not readily obtained in the community
- Assess by allied health (e.g. by a social worker, Aged Care Assessment Services, an occupational therapist, a physiotherapist, a dietician)
- Review and optimise medications by a pharmacist
- Educate about the importance of self-management and prevention of readmissions

- Set discharge goals early
- Identify which health professionals are necessary for MDT care and make the appropriate referrals
- Ensure that everyone knows the discharge pathways (e.g. HF clinic, echo appointments, HF nurse specialist for home review, palliative care)
- Improve communication so that patient, carers and community-based care teams have the necessary information required to be involved effectively in patient care – for example, ensure that the team members:
  - are informed of inpatient results and the ongoing plan

- are aware of who is involved with the care of the patient in the community, their expected role and how to contact each other to ensure ongoing collaborative care
- have a copy of the individualised HF action plan that encourages maintenance behaviours and guides appropriate GP and HF team review
- Ensure that the patient and carer know what is going to happen and have agreed to it

### Reinforcing the above:

- having a diuretic action plan that has been developed in collaboration with the patient's cardiologist
- providing access to a phone-advice HF nurse
- ensure a rapid pathway to obtain HF expertise and advice
- encouraging behaviours that will contribute to maintenance of health and wellbeing

- having processes (and the appropriate skill mix) in place to ensure early identification of decompensated HF suitable for management in the community
- having a plan that includes who and how to manage early deterioration (including how to access a HF specialty team, if required)
- having regular follow-up and review with the cardiologist and/or HF nurse as appropriate, with first contact made within 7 days postdischarge

BNP = brain natriuretic peptide;  
 ED = emergency department;  
 FBE = full blood examination;  
 GP = general practitioner;  
 HF = heart failure;  
 JVP = jugular venous pressure;  
 MDT = multidisciplinary team;  
 HIP = health improvement program;  
 UEC = urea, electrolytes, creatinine

\* HF cardiologist, general physician, HF nurse/nurse practitioner, dietician, pharmacist, physiotherapist



# The foundation

## Data to drive quality improvement

Data are essential to understand, review, compare and benchmark performance and prioritise system redesign efforts.

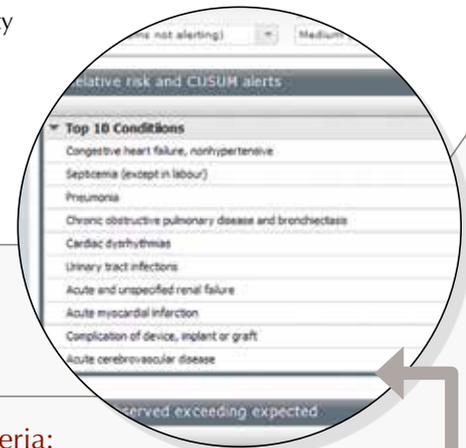
### Interrogation of heart failure readmissions data provides insight into:

- the profile of the readmitted patient
- potential gaps in service provision
- the impact of health service interventions
- opportunities for ongoing quality improvement and resource allocation

**The challenge** is to identify a dataset that is clinically meaningful and widely used (to facilitate benchmarking opportunities), and is not an additional resource burden for health services to collect and contribute to.

Using existing universal data sets, such as the Victorian Admitted Episodes Dataset (VAED) and Victorian Emergency Minimum Dataset (VEMD), to drive improvement at a clinical level should be considered.

The Victorian Department of Health & Human Services has supported the Telstra Health Dr Foster Quality Investigator (QI) tool pilot to address this need.



### Using the VAED to address 30-day heart failure readmission rates and drive heart failure quality improvement The Telstra Health Dr Foster, QI heart failure readmissions scorecard

In 2015, through an initiative supported by the Department of Health & Human Services, Telstra Health developed the 'heart failure readmissions scorecard' as part of its Dr Foster QI tool. It was designed to assist health services to look more closely at their heart failure readmissions data, better understand their readmitted population and prioritise interventions towards populations at risk. While its information was drawn from hospital administrative data, it was refined and informed by clinicians across the state to ensure that it was concise, relevant, risk adjusted and, most importantly, clinically meaningful.

### Heart failure readmissions scorecard criteria:

**Outcome:** 30-day readmissions (all cause)

**Data source:** VAED

**Care type:** Acute

**Date range:** Query specific – include data up to June 2015

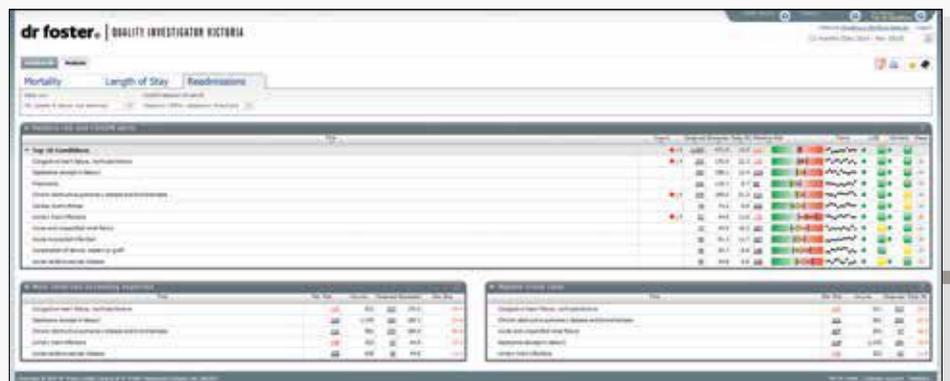
**Primary diagnosis:** I500 – congestive heart failure, non-hypertensive  
I509 – heart failure, unspecified

**Age group:** 18+ years old

**Admission type:** Emergency

**Peer group:** 14 health services

**Plotting:** Relative and crude rates



The Dr Foster Quality Investigator (QI) interface allows health services to investigate their own readmissions data and compare it with what is expected. By linking with the hospital's patient management system (PMS), patient-level data can then be explored in more detail to help build a profile of the readmitted patient.

The heart failure readmissions scorecard provides further insight into the heart failure readmissions profile of the health service by answering a series of select queries.

# Heart Failure

# Focus Group

Scorecard issue 1.011015

Scorecard version 1.1015

## Demo Health

Scorecard Timeframe: July 2014 to June 2015 Index Discharges

### Heart Failure Readmissions Profile

Using congestive heart failure criteria, Readmission indicators within Quality Investigator are measured as a ratio of observed to expected number of readmissions, where the expected number of readmissions is derived using a risk-adjustment method. Readmission indicators are lagged by three months as there is some delay in receiving diagnosis/DRG codes for most separations. This lag also allows a window of one month for patients to be readmitted and another month for them to be discharged from the readmission.

### Health Service Congestive Heart Failure 30-day Readmission Insight

Figure 1: Health Service Relative Risk of a 30-day Readmission (all cause) using VAED Benchmark 2013/14

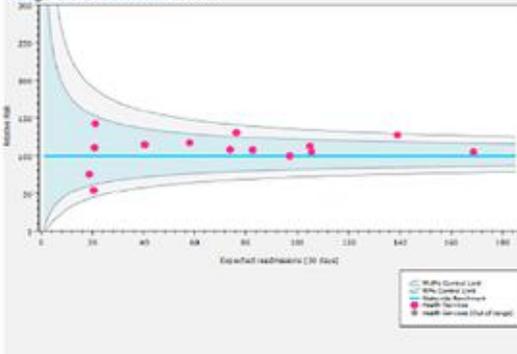


Figure 2: Health Service crude 30-day Readmission rate (all cause)

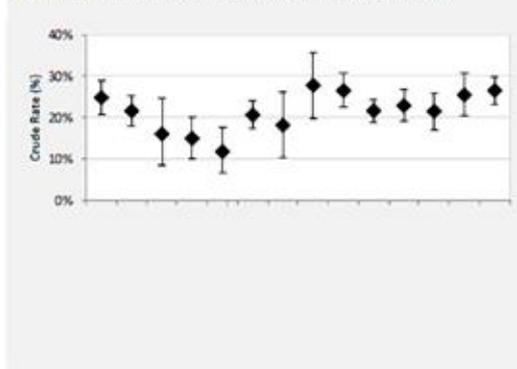


Figure 3: 30-day Readmissions Relative Risk 3-year Trend (all cause) using VAED Benchmark 2013/14



Figure 4: Crude 30-day Readmissions rate 3-year Trend (all cause) compared to the 14 Health Service peer group aggregation



Figure 5: Top 5 readmission Diagnosis Groups based upon volume following 30-day readmission

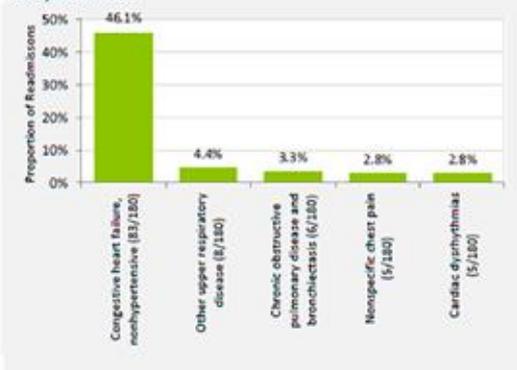


Figure 6: Proportion of 30-day Readmissions readmitting to origin of index Health Service admission



Figure 5: The Telstra Health Dr Foster Quality Investigator heart failure readmissions scorecard (dummy data), February 2016

Health services can not only learn more about the time and frequency of heart failure readmissions, but they can track the impact of interventions over time.

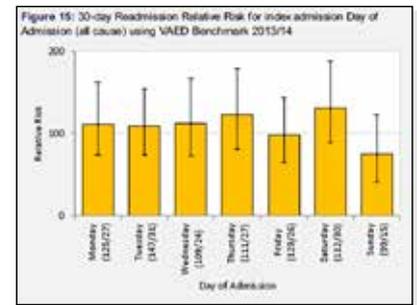
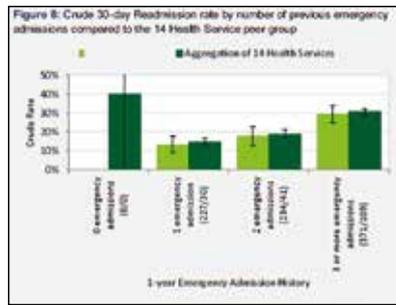
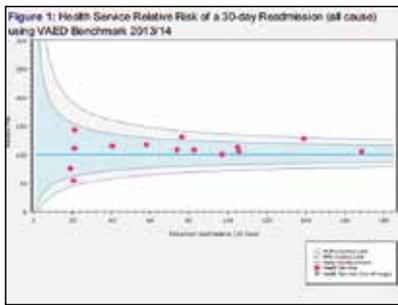


Figure 6: Dummy data extracts from the Dr Foster Quality Investigator heart failure readmissions scorecard, showing select health service data vs aggregated data

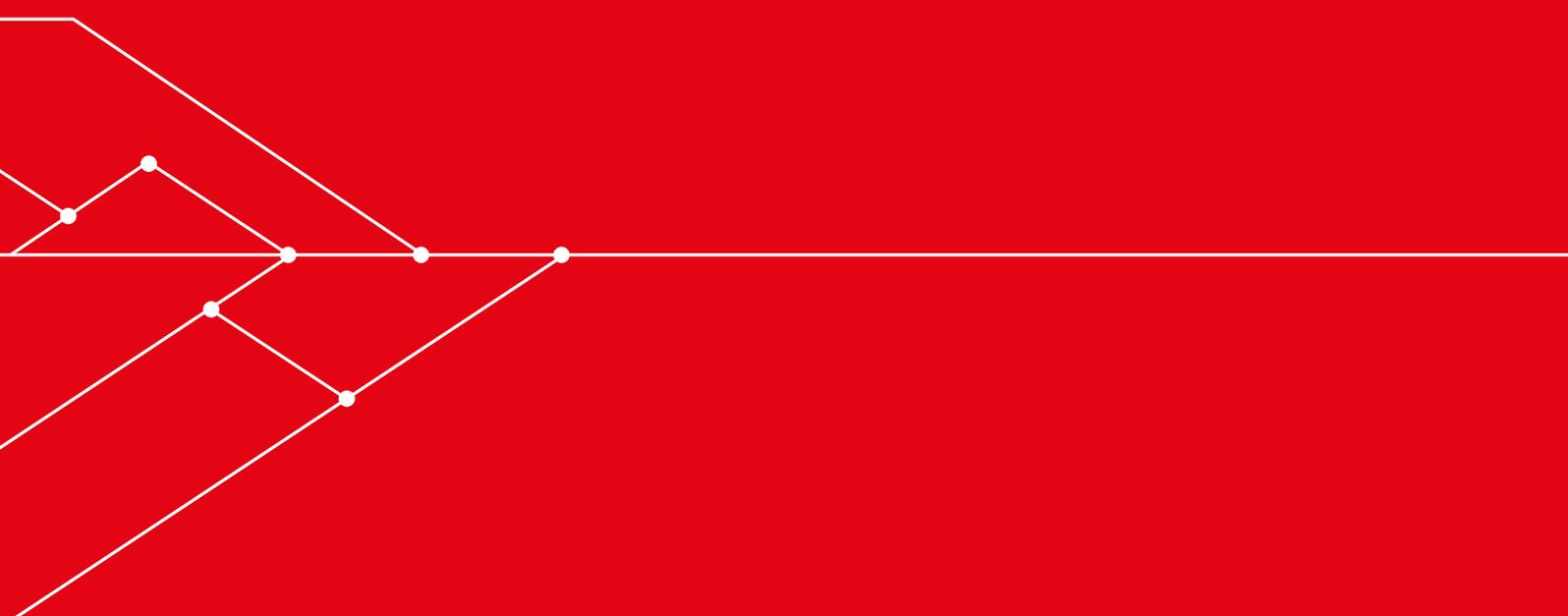


**Using the Dr Foster Quality Investigator tool and the heart failure readmissions scorecard to drive quality improvement**  
 Associate Professor Harry Gibbs, Deputy Director of General Medicine,  
 Alfred Hospital, Dr Foster heart failure readmissions clinical focus group lead

The Dr Foster QI tool has allowed us to look beyond our own institutional data to come to understand what is happening on a state-wide level. This is where the real value lies. However, it's not only about benchmarking our health service against others, it's about developing a deeper understanding of the underlying causes for readmission, and then using this information to develop a risk stratification profile for our patients. The heart failure scorecard is the first step in achieving this goal.

# Section 3

Implementation, the barrier to innovation



# Implementing clinical process redesign

## Testing change

Implementing clinical process redesign can be challenging and requires strong program, communication and change management support to be successful (Figure 7).

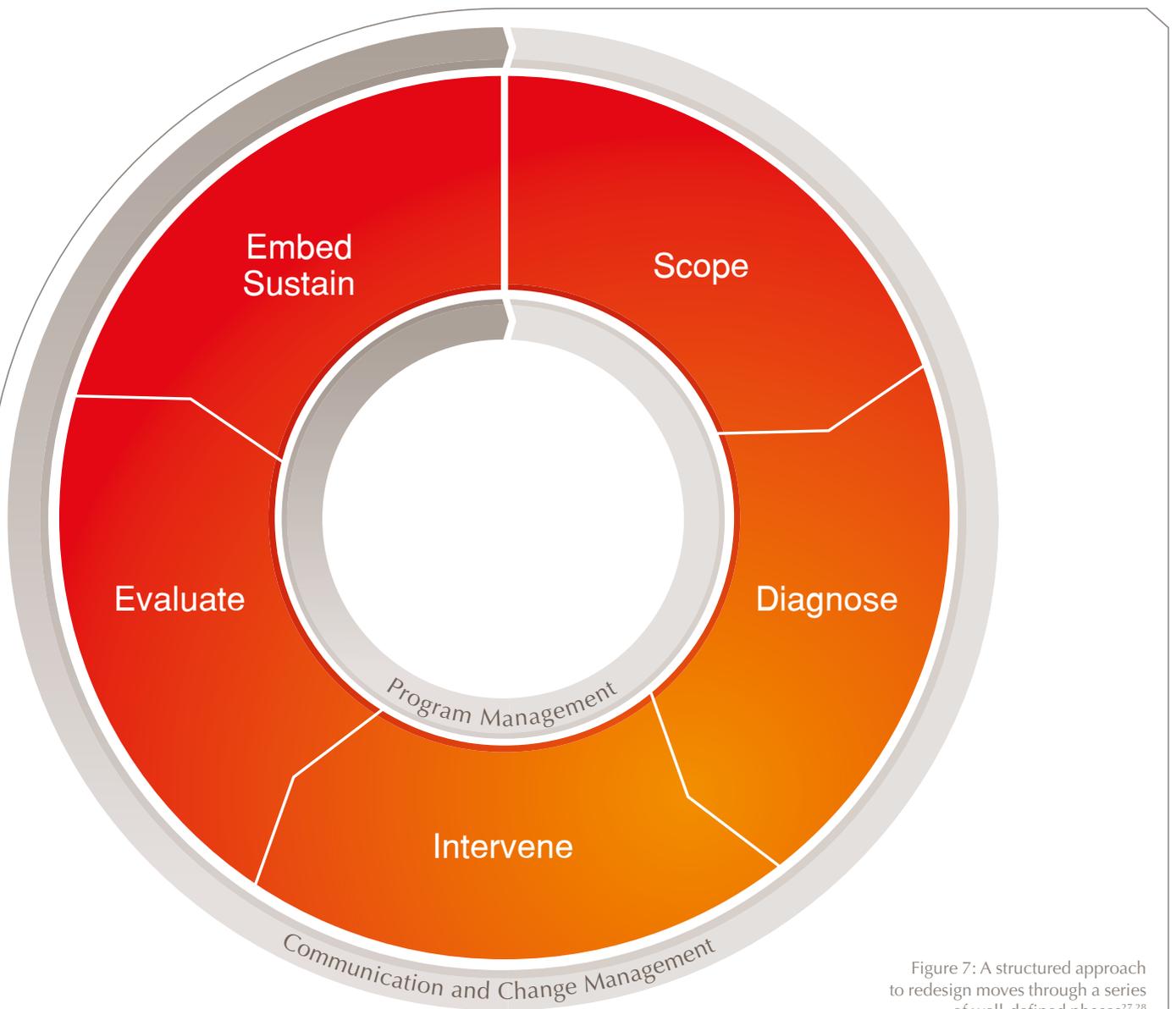


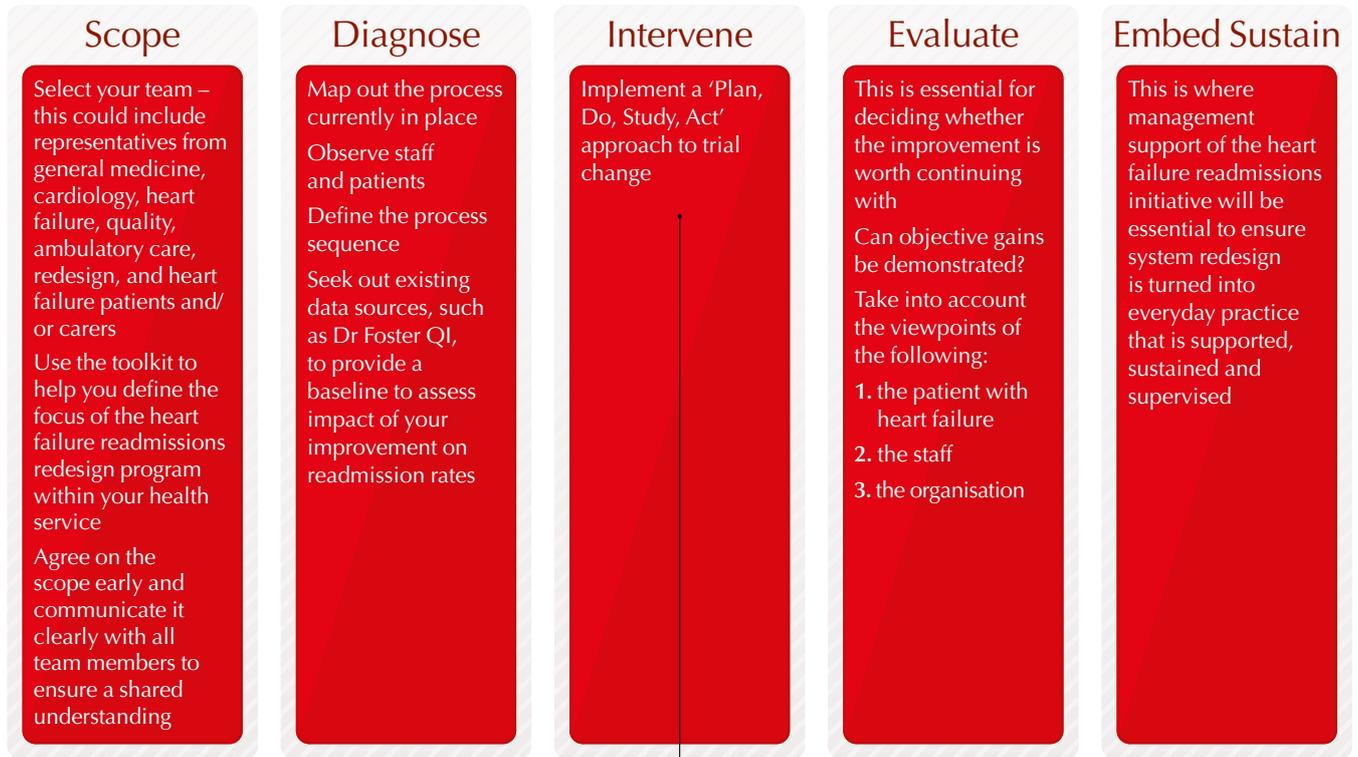
Figure 7: A structured approach to redesign moves through a series of well-defined phases<sup>27 28</sup>

When planning your heart failure readmissions process redesign, consider the following elements that have shown success in implementing and sustaining improvements within the Australian public hospital system:<sup>29</sup>

- **A clearly defined scope**
  - identify the key challenge
  - frame the project
  - select the team.
- **Visible involvement of the chief executive and senior management.**
- **Implementation** – requires strong change management skills.
- **Focus on the patient's journey** – understanding patient demand and standardising patient journeys will help to simplify the redesign process.
- **Data** – solutions need to be evidence based.
- **Setting clear targets and timeframes** – set stretch targets to stimulate real innovation, as it challenges participants to think 'outside the square'.
- **Managing the process** – strong program management is essential.
- **Organisational readiness** – change management is crucial across all phases of redesign.
- **Selection of projects** – best to start the redesign process with a problem that obviously needs to be fixed.
- **Local versus system-wide reform** – careful planning and well-coordinated central program management.
- **Persistence and flexibility** – rigor and persistence needs to support any redesign process.
- **Sustainability** – a dynamic process containing three main elements:
  - standard work – the new process must be documented
  - maintenance – review the redesign work regularly
  - continuous improvement – a regular forum to discuss performance and process issues.

- engage clinical leaders
- multidisciplinary team solution design – redesign is best owned and managed by a workgroup comprising people who do the actual work, supported by those with redesign expertise.
- patients and carers as part of the team, to ensure focus on the patient journey

The key phases of process redesign can be applied to your health service when addressing heart failure readmission rates.



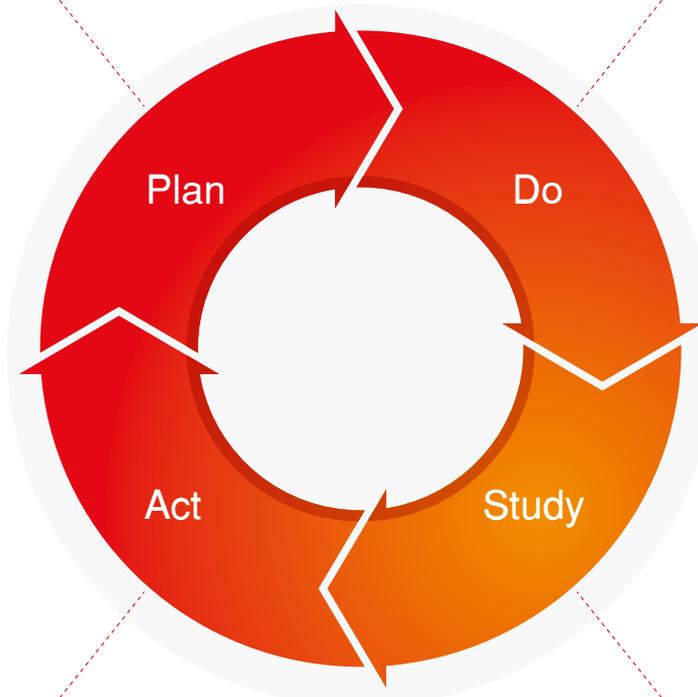
Improving quality of care with the Plan-Do-Study-Act (PDSA) cycle

Set specific aims for what you are trying to accomplish.

Create performance measures to determine the extent that the aims will be accomplished.

- Numerical (*quantitative*) measures will illustrate whether efforts will “move the needle” from a baseline starting point.
- Descriptive (*qualitative*) measures will illustrate beliefs and opinions about the value of the aims.

Implement structural change objectives to address challenges and opportunities for improvement. Standardise policies and procedures to support broad, systematic improvement.

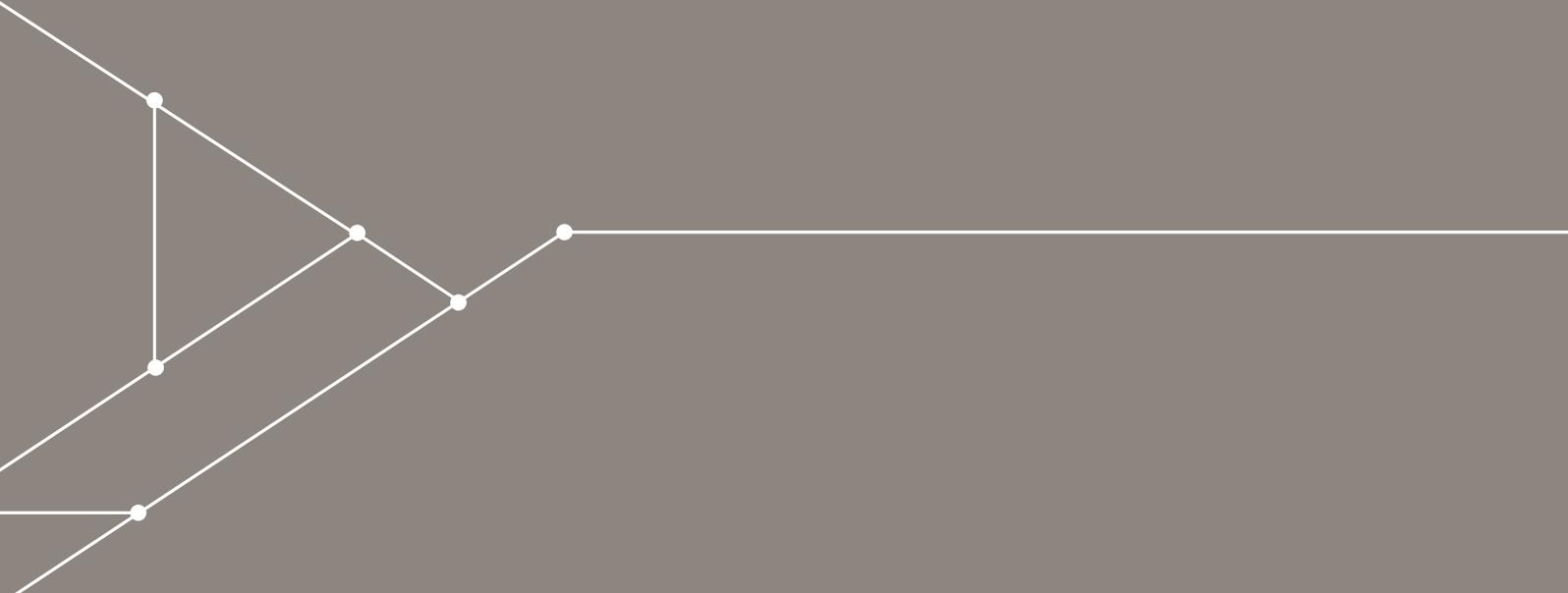


Since doing too many things at once can be overwhelming and frustrating, **prioritise, select, and implement** change on a small scale (pilot test).

Test and record change to learn about challenges, opportunities, and achievements. Gain feedback from diverse stakeholders and data sources. Create structural change objectives based on feedback to recommend adjustments to the original plan.

Source: TurnAround Achievement Network<sup>30</sup>

**Action:** Use the information within this toolkit to reflect on your own heart failure service and systems to challenge the status quo and explore opportunities to test quality improvement interventions.



Remember that it is not necessary to aim for the most sophisticated solution in the first instance. Process redesign and ongoing quality improvement to address heart failure readmission rates is an iterative learning process that will likely involve evolution through several stages. The best approach is to be willing to learn and improve on the system redesign model as the organisation progresses through the journey.

# Recommended websites and resources

**Victorian Heart Maps** is a Heart Foundation dynamic dashboard that allows the user to view hospital separations for heart failure and other select cardiac conditions by Local Government Areas in Victoria. Data source is 2007–2013 VAED ([www.heartfoundation.org.au/programs/victorian-heart-maps](http://www.heartfoundation.org.au/programs/victorian-heart-maps)).

The **Heart Foundation website** has the following heart failure resources which can be downloaded and printed:

- **Living well with chronic heart failure booklet** helps guide the patient in their understanding of their day-to-day heart failure management, and includes a heart failure action plan.
- **Multidisciplinary care for people with chronic heart failure** provides principles and recommendations for best practice MDT management
- **Living every day with my heart failure** is a resource for Indigenous people with chronic heart failure. It features culturally and clinically appropriate health information to help Indigenous people with congestive heart failure better manage their condition. It features ‘my heart failure action plan’, ‘my medicines’, ‘my fluid plan’, ‘my health record’ and ‘my clinic and doctor visits’
- **Living well with heart failure** (Due for release in March 2016) is a low health literacy resource based on the Living every day with my heart failure resource
- **‘Living well with chronic heart failure’ information sheets** are for people with chronic heart failure and their carer’s. Includes information on how to minimise symptoms and when to get help. They are available in 17 languages.
- **My Heart, my life** is the Heart Foundation’s app to help patients: manage their medicines, manage their health stats, including blood pressure and cholesterol and learn about heart attack warning signs and what to do.

The **Heart Foundation Health Information Service** can be contacted to order printed copies of select Heart Foundation heart failure resources (subject to availability) – call 1300 36 27 87.

**Heart Online** (Heart Education Assessment Rehabilitation Toolkit) [www.heartonline.org.au/](http://www.heartonline.org.au/) provides a suite of online and downloadable health professional resources to support Cardiac Rehabilitation & Heart Failure Management in the areas of:



**Heart Failure Matters** is a website that provides practical information for patients, families and caregivers. Narrated animations explain how a healthy heart works, what happens to it during heart failure and how various treatments work to improve a patient’s health ([www.heartfailurematters.org/en\\_GB](http://www.heartfailurematters.org/en_GB)).

**Redesigning Hospital Care Program** provides a suite of resources to help Victorian hospitals to understand, undertake and evaluate clinical process redesign [www2.health.vic.gov.au/hospitals-and-health-services/quality-safety-service/redesigning-hospital-care](http://www2.health.vic.gov.au/hospitals-and-health-services/quality-safety-service/redesigning-hospital-care)

The **International Consortium for Health Outcomes Measurement** website has material to support the implementation of the patient centred outcome set for heart failure (Reference guide due for release in May 2016) [www.ichom.org](http://www.ichom.org)

## References

- <sup>14</sup> World Heart Failure Alliance, Global Health Awareness Programme, European Society of Cardiology. *Heart failure: preventing disease and death worldwide*, 2014.
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# Saying thanks

It is with sincere and heart-felt thanks that we acknowledge the contribution of many individuals and organisations to the development of this resource. Without your willingness to collaborate, contribute, share and innovate, this would not have been possible.

*We urge you to continue to strive for a heart failure system of care centred on the needs of the patient, driven by information and designed for safety.*

**Author Melanie Hay**, BSc MAIPM  
Heart Foundation – Victoria

With thanks to members of the Heart Foundation – Vic, CVH team and to Mr Harry Patsamanis (CVH Manger) for his support during the project and in the development of the toolkit. Members of the Heart Failure Readmissions – Expert Advisory Group: Mr Harry Patsamanis (Heart Foundation Victoria), A/Prof Andrea Driscoll (Deakin University and Austin Health), Prof Karen Page (Deakin University), Ms Hella Parker (Eastern Health), Mr John Cuthbert (Melbourne) Dr Jayant Banerji (Monash University, School of Rural Health), Mr Donald Campbell (Monash Health), Ms Debra Gascard (Monash Health Community, Monash Health), Rhonda Sanders (St Vincent’s Hospital), Prof David Hare (University of Melbourne and Austin Health), A/Prof Nicholas Cox (Western Health), Ms Kath Cowie (Western Health).

Also thanks to Dr Jason Arora (ICHOM), Mr Chris Brown (Telstra Health) and members of the Department of Health & Human Services Heart Failure Readmissions – Interdepartmental Working Group, individuals involved in the early work which informed the HIRC and members of the HIRC working group (SQOC).

We thank the following health services and key personnel for their involvement in the heart failure readmissions project and their contributions towards the development of the Heart Failure Toolkit.







For heart health information  
1300 36 27 87  
[www.heartfoundation.org.au](http://www.heartfoundation.org.au)

Please direct any queries regarding this resource to: [cvhvic@heartfoundation.org.au](mailto:cvhvic@heartfoundation.org.au) or telephone Heart Foundation Victoria on (03) 9329 8511.

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This toolkit has been produced with the support of the Victorian Government.