Heart Failure Integrated Care Project

FINAL REPORT

South Eastern Sydney Local Health District,

Central and Eastern Sydney PHN and

Novartis Australia

September 2017

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Suggested Citation:

Paull G, Hawkshaw B, and Hsieh V (2017). *Heart Failure Integrated Care Project*. On behalf of the Heart Failure Integrated Care Steering Committee. South Eastern Sydney Local Health District, Central and Eastern Sydney PHN and Novartis Australia

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Acknowledgements

The Heart Failure Integrated Care Project is a joint partnership between South Eastern Sydney Local Health District, Central and Eastern Sydney PHN and Novartis Australia.

The project was conducted in the South Eastern Sydney Local Health District, specifically in the St. George and Sutherland Shire areas of Sydney.

Sincere thanks are extended to the Practice Nurses, General Practitioners and the Practice Managers who gave their time and energy in implementing the project.

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Executive Summary

Heart failure is a chronic disease condition characterised by significant symptom burden, polypharmacy and challenging self-care recommendations. Effective management can reduce episodes of acute decompensation requiring hospital admission, with patients benefiting from regular assessment, monitoring and self-care support. Clinical care is predominantly delivered by General Practitioners (GP) and cardiologists as well as hospital and community based heart failure (HF) disease management programs (DMP) which, although effective, reach only 20% of patients discharged from hospital. To improve HF disease management accessibility, there have been calls for the development of *primary care* based HF DMP. In support of this proposal, there is evidence to suggest primary care practice nurses (PN) are well placed to contribute to the clinical management of stable chronic disease.

The *Heart Failure Integrated Care Project* was a joint venture between South Eastern Sydney Local Health District, Central and Eastern Sydney PHN and Novartis Australia to develop a *primary care* based HF DMP through a partnership between hospital and General Practice clinicians.

The project aims were to:

- Develop a primary care based chronic disease management model for HF;
- Enhance General Practitioner & Practice Nurse knowledge and confidence in HF management;
- Explore the capacity of Practice Nurses to add value to chronic disease management in General Practice by monitoring and providing self-care supporting for patients with HF; and,
- Improve communication between primary health and hospital based clinicians.

GPs and PNs from six (6) General Practices partnered with tertiary hospital based specialist HF clinicians over a 12 month period to develop a *primary care* based HF DMP. Opportunities and barriers were identified with solutions implemented to inform a *primary care* based HF DMP. *Barriers included*: identification of HF patients, limited resources to support self-care and limited scope of practice and limited professional support for practice nurses. *Opportunities and solutions included*: standardising disease coding, incorporating an assessment and monitoring template within electronic patient management systems, identifying opportunities to expand the role of the practice nurse, development of self-care support resources and improved communication with hospital based HF clinicians.

Project recommendations:

1. The Heart Failure integrated care project be implemented within St.George Hospital Heart Failure Services to provide a *Heart Failure Integrated model of care;*
2. Continue to partner with General Practice clinicians to build chronic disease management capacity within Primary Care; and,
3. Incorporate Heart Failure Integrated Care project resources within HealthPathways to promote access and sustainability.

Partnerships between hospital and primary care based clinicians can inform the development of a practice nurse supported *primary care* based HF CDM to improve clinical management and support care integration. Improving communication, strengthening clinical relationships, sharing resources and supporting the transition of care between services frontiers are identified as essential foundations in achieving this objective.

The state-wide NSW Health Integrated Care Strategy aims to create *better communication and connectivity between health care providers in primary care, community and hospital settings.* This project reflects that goal.

Introduction

Background

Heart Failure (HF) is a chronic and complex clinical syndrome that affects an estimated 300,000 Australians with 30,000 new cases diagnosed each year and a prevalence known to increase with age. Despite this burden and its impact on patients, families and health services, HF disease management remains sub-optimal with delayed diagnosis, limited implementation of evidence based therapies and a lack of care integration between hospital and primary care based clinicians [1]. In addition, HF is associated with high rates of hospitalisation, 30 day readmission rates of up to 30% and evidence to suggest that up to two thirds of HF related hospital admissions are potentially avoidable [2, 3].

South Eastern Sydney Local Health District (SESLHD) admission data from 2014-15 demonstrate that 9.3% of all potentially preventable hospitalisations were attributable to heart failure accounting for 10,273 total bed days at an estimated cost of $6,800,000, the highest number of bed days for any potentially preventable condition. In addition, there were 130.6 deaths from HF in the SESLHD in 2012-2013 or a total of 10.7 per 100,000 population [4]. These data underscore both the challenges of heart failure management and the opportunity for health services to develop partnerships and progress existing models of care in order to improve patient outcomes.

Heart Failure Disease Management Programs

Evidence based national and international guidelines for pharmacological and non-pharmacological management of heart failure provide a framework for healthcare services to achieve best patient outcomes. An important component of this evidence includes the provision of hospital based heart failure disease management programs, which have been shown to reduce readmissions and prolong survival in high risk patients with HF. However, despite this success, such programs have been shown to have limited penetration and accessibility with only an estimated 20% of HF patients discharged from hospital being managed by hospital based HF disease management programs, even less access in regional areas [5]. It is therefore logical to extend these initiatives and broaden their implementation beyond the acute care environment and into the general practice setting [6].

Role of General Practice

Primary care-based HF disease management models of care have been studied in several international randomised controlled trials and have been promoted by Australian General Practice advocates [7]. The environment of General Practice is argued to be more suitable to engaging a larger proportion of patients with HF across the spectrum of their illness trajectory and at a time when behavior interventions can be effective in promoting lifestyle changes. This approach is supported by the Australian government healthcare reform which places general practice at the centre of its agenda to manage chronic disease[8]. At the same time, it is also well recognised that the demand for primary healthcare services is rapidly rising due to an ageing population, growing burden of chronic disease and shifting of care from hospitals to primary care [9]. To meet this demand, General Practices will be required to re-structure their care delivery and develop new models to provide quality services in an efficient, timely and cost-effective way. Concerns about the capacity of GPs to meet the growing chronic disease burden has prompted discussion of how to better utilise the potential value of Practice Nurses [8].

Practice Nurses

The national and international literature suggests that Practice Nurses have the capacity to extend their scope of patient care, particularly in the area of chronic disease management [6, 8, 10, 11]. This is of utmost relevance given the recent growth in the number of Practice Nurses in the primary care setting with the Australian National Practice Nurse survey estimating that 63% of General Practice now employ one or more Practice Nurses [12]. There is further support for Practice Nurse participation in a primary care chronic disease management through evidence demonstrating that delegating clinical roles to Practice Nurses, such as patient education and monitoring clinical progress, can improve clinical outcomes without affecting general practice business models [9]. Remuneration opportunities for General Practice have been strengthened by federal government clinical and financial incentives to employ Practice Nurses, such as the Practice Nurse Incentive Program (PNIP) and MBS items for Practice Nurse interventions (MBS item 10997 - Chronic Disease Monitoring and Support)[13, 14]. The growth and development of the Practice Nurse role has taken place in the context of established evidence that nurse led post discharge interventions have been demonstrated to reduce readmission, improve quality of life and improve survival in HF [3, 15, 16].

Practice Nurse Development

Prior to the formation of Medicare Locals and Primary Health Networks, the Divisions of General Practice supported the development of the Practice Nurse through the creation of Clinical Nurse Consultant (CNC) roles to provide specific clinical expertise and support to Practice Nurses in areas such as complex would care and chronic disease management [17]. Although the Divisions of General Practice divisions have since morphed through Medicare Locals to Primary Health Networks, the need for Practice Nurses to have structured clinical support remains the same.

The establishment of collegial partnerships between specialist nurses and Practice Nurses can make a significant contribution in supporting the management of chronic disease conditions in the primary care setting, particularly in light of evidence identifying that there is currently insufficient coordination of care and communication between acute care facilities and general practice [6]. In specific reference to cardiovascular conditions, it has been proposed that Practice Nurses would be able to undertake a more active role in collaborative cardiovascular disease management through professional development, education and training [17].

The Practice Nurse clearly has a role in the management of chronic disease, being in an ideal position to facilitate longitudinal follow-up, readily accessible to patients and having better communication processes with the General Practitioner compared to clinicians in acute hospital setting [6]. To date, many General Practitioners and hospital based clinicians have had a limited appreciation of the professional scope and value of nurses in the General Practice setting, however with current and future developments in the structure of health care delivery there exists an exciting opportunity to advance the role of nurses in Australian General Practice [18].

"We are at the forefront of prevention

We see all the hospital discharges

We are at the baseline of chronic disease management and aged care and its management

All the acute diagnosis that then has to be referred elsewhere

We are the critical loop – the chain before and after hospital"

Practice Nurse

St.George Hospital based heart failure services

Specialist cardiac services at St George Hospital (SGH) include an outreach model of care for the management of patients with HF with a Nurse Practitioner and Clinical Nurse Specialist providing home and clinic based clinical assessment, monitoring and structured self-care support for patients following hospital discharge and by direct referral. As part of this service patients are provided with written resources such as advice on salt and fluid restriction, daily weigh charts and an action plan to support self-care. In a joint hospital / General Practice partnership, the HFICP sought to share hospital based assessment tools, self-care support resources and expert clinician support with primary care clinicians in the management of heart failure

As with hospital based services, primary care may benefit from a structured heart failure chronic disease management approach, providing consistent, cost effective and comprehensive self-care support for patients and carers. This approach is consistent with Standard 7 of the NSW Clinical Service Framework for Chronic Heart Failure that recommends a multidisciplinary, coordinated and integrated approach to the management of patients with HF [19].

The HFICP was conceived to develop a more integrated model of heart failure care in the St.George region.

Project Aims and Objectives

Project aims:

- Develop a primary care based chronic disease management model for heart failure;
- Enhance General Practitioner & Practice Nurse knowledge and confidence in HF management;
- Explore the capacity of Practice Nurses to add value to chronic disease management in General Practice; by monitoring and providing self-care supporting for patients with HF; and,
- Improve communication between primary health and hospital based clinicians

Project Objectives:

1. Identify General Practices in the St George region who employ one or more Practice Nurses and ascertain their willingness to participate in the program.
2. Recruit General Practices by September 2016.
3. Develop a General Practice heart failure chronic disease management model of care and implement in participating practices between September 2016 and March 2017.
4. Recruit patients attending these General Practices to participate in the project between September 2016 and March 2017.
5. Measure changes in the confidence, skills and knowledge in the GPs and PNs to diagnose, treat and manage HF patients attending their practice.
6. Develop and tools and resources to support GP's and Practice Care Nurses in the management of patients with HF and to provide self-care support.

Program logic – Heart Failure Integrated Care Project

Program Objective:
The project aims were to:

- Develop a primary care based chronic disease management model for heart failure
- Enhance GP & Practice Nurse knowledge and confidence in HF management
- Explore the capacity of Practice Nurses to add value to chronic disease management in General Practice by monitoring and providing self-care support for patients with HF
- Improve communication between primary health and hospital based services

Problem statement	**Inputs**	**Outputs: Activities**	**Outputs: Participation**	**Short-term outcomes** 0-10 weeks	**Medium-term outcomes** 10 weeks -12 months	**Long-term outcomes** 12 months – 7 years
Heart Failure is Chronic & complex condition with increasing prevalence and contributes to high rates of potentially preventable hospitalisations. Integration of care between the acute hospital and primary care settings is currently inadequate. In addition, there are limited primary care clinical assessment, self-care support resources and communication networks between hospital and primary care based clinicians.	Qualified and experienced staff and management Funding from Novartis Australia Partner organisations • SESLHD • CESPHN • Novartis Australia • Participating General Practices NSW Health Integrated Care Strategy aims to create better communication and connectivity between health care providers in primary care, community and hospital settings NSW Clinical Service Framework for chronic heart failure Standard 7 – A multidisciplinary, coordinated and integrated approach to management is recommended for patients with HF	Primary Care based Heart Failure chronic disease management model Chronic disease self- care support resources Communication networks between General Practice and hospital based clinicians	Project Steering Committee with representatives from SESLHD, CESPHN, Novartis Pharmaceuticals and General Practice Project Officer, Cardiology Clinical Nurse Consultant, Cardiologist, Primary Care General Practitioners and Practice Nurses from participating General Practices Hospital based Clinical Nurse Consultants	Understanding of General Practice work force • Workflow • Business model • Access to resources • Networking and support opportunities	Development of Primary Care Heart Failure Chronic Disease Management Model incorporating patient assessment and self-care support resources Establishment of networking relationship between hospital based Clinical Nurse Consultants and Primary Care based General Practice clinicians Improved communication between General Practice and Hospital based clinicians	Expansion of integrated Chronic Disease strategy to include other disease conditions Transition of care plan from hospital to primary care incorporating Hospital based chronic disease management programs and primary care Improved transition documentation with standardised discharge summary template for Junior Medical Officers Established communication networks between General Practice and hospital based chronic disease specialties Care is integrated with associated improvements in hospital admission, readmission and length of stay performance.

Assumptions: participation and partnership with Practice managers, General Practices – General Practitioners and Practice Nurses. Staff will participate and engage in integrated care initiatives

External Factors: Funding, General Practices employing Practice Nurses

Figure 1. Project Flowchart

1. BACKGROUND TO PROBLEM

- **Increasing incidence and prevalence** of heart failure with high rates of hospitalization, long lengths of stay and high rates of readmission
- **Limited penetration** of hospital based heart failure chronic disease management programs
- **General Practice** at the centre of Australian government reform to manage chronic disease
- **Limited capacity** of GPs to meet the growing chronic disease burden
- **Potential of practice nurses** to support chronic disease management, contributing to ongoing assessment and supporting patients to self-care
- **Limited integration** between hospital based heart failure chronic disease management programs and primary care

NEXT STEP: partner with General Practitioners and Practice Nurses to develop a Primary Care based heart failure management program

2. PARTNERSHIP WITH GENERAL PRACTICE CLINICIANS TO DEVELOP A PRIMARY CARE HEART FAILURE CHRONIC DISEASE MANAGEMENT PROGRAM

Understanding General Practice

- **Staffing** - varying workforce, experience and confidence in heart failure management
- **Workflow** - non-paper based with use of electronic clinical management systems (Medical Director, Best Practice, Zedmed). If patient attends for an unrelated complaint not able to add on heart failure assessment or self-care support. Would have to make another specific appointment. Lower than expected number of patients recently discharged from hospital, volume of patients discharged is diluted by large number of General Practices. Difficulty in identifying patients with heart failure due to inconsistent disease coding by General Practitioners within same practice i.e. CHF, HF, LVF, pulmonary oedema
- **Business model** - high volume models, need to generate income, need to build on management plan MBS item 721 (time consuming but practice nurse can contribute), nurse assessment as part of management plan MBS Item 10997 - *monitoring and support for a person with chronic disease*
- **Access to resources** - limited access to appropriate resources to support heart failure patient self-care
- **Networking opportunities** - Practice nurses are often professionally isolated, have a wide range of roles, interested in participating in chronic disease management, little or no contact with hospital based colleagues, not aware of any contact details should they need to discuss a patient recently discharged

NEXT STEP: Develop model of care based on these findings, including being efficient, supportive and able to be used within existing practice workflow

3. DEVELOPMENT OF PRIMARY CARE BASED HEART FAILURE CHRONIC DISEASE MANAGEMENT MODEL

Resource and Support Mechanisms

- **Clinical Assessment tool:** refined patient HF assessment form, easily embedded in the electronic clinical management system of the General Practice
- **Self-care support resources** for heart failure chronic disease management - endorsed by consumer advisory group
- **Clinical training:** General Practitioner and Practice Nurse training: refined written resources & face-to-face training
- **Clinical support:** Telephone contact with hospital based HF specialist clinical nurse consultant (CNC) and access to cardiologist
- **Clinical Networking:** ongoing telephone contact and networking with a broad range of clinical nurse consultants, through provision of CNC contact lists in hard copy and on website of Central and Eastern Sydney Primary Health Network. Clinical resource for General Practice Staff – *building relationships, sharing resources and professional development events*
- **Business model:** identification of funding opportunities through MBS items – Practice Nurse contribution to chronic disease management plan
- **Model is sustainable and transferable**

NEXT STEP: expand model to include other chronic disease conditions to support the development of the practice nurse role in chronic disease management

Project Structure and Mechanisms

Partnership between a Local Health District, Central and Eastern Sydney PHN and Novartis Australia

The Heart Failure Integrated Care Project (HFICP) was initiated in May 2015 with a Memorandum of Understanding agreed between Novartis Australia Pty Ltd and South Eastern Sydney Local Health District (SESLHD) to conduct a project to strengthen the connection between the St George Hospital Heart Support Service and local General Practices. The main focus of the project was to support the management of HF in the primary care setting. In May 2016, Central and Eastern Sydney PHN (CESPHN) was engaged to provide connection with General Practices and administrative support for the HFICP. CESPHN is one of 31 Commonwealth funded Primary Health Networks across Australia. The HFICP was conducted from June 2016 to June 2017.

Governance

The HFICP was guided by a Steering Committee that included senior managers from three organisations. This enabled rapid management of arising issues and ability to have a sustained impact, in particular the allocation of senior clinical LHD staff to the project. Membership of the Steering Committee included:

- Sheila Moloney, RN, Practice Nurse, General Practice in St George region of Sydney
- Glenn Paull, Clinical Nurse Consultant, Cardiology, SESLHD
- Dr Victar Hsieh, Cardiologist, SESLHD
- Janet Bell, A/Service Line Manager Medicine 1, 2 & Cancer, SESLHD
- Christine Day, Nurse Manager Medicine, SESLHD
- Thomas Chapman, Acting Integrated Care Manager, SESLHD
- Paul Holdsworth, Consumer Representative SESLHD
- Jane Fisher, Integrated Care Manager, CESPHN
- Barbara Hawkshaw, Project Officer, CESPHN
- Martin Haigh / Geoffrey Chin, Novartis Australia

Other staff contributing to project:

- Janet Newton, Nurse Practitioner, Cardiology, SESLHD – inception to December 2017
- Michael Russo, Project Officer, CESPHN – inception to August 2016
- Amanda McInnes, Community & Residential Aged Care Program Officer, CESPHN – inception to January 2017
- Linda Soars, Integrated Care Manager, SESLHD – inception to February 2017
- Brendan Goodger, Manager, Population Health, Chronic Disease Management and Prevention, CESPHN

Terms of Reference for the HFICP Steering Committee were established and Steering Committee meetings held monthly. The Working Group consisted of the project officer, CESPHN manager or aged care program officer, a SESLHD nurse practitioner/clinical nurse consultant, and a cardiologist.

Project Staffing and Resources

Staff were employed from May 2016 (1 x 3 day/week Nurse Practitioner, SESLHD) and a Project Officer (1 x 3 day/week, CESPHN) from May 2016. There was a staffing change in September 2016 for the CESPHN project officer and in December 2016 for the SESLHD clinician (Clinical Nurse Consultant). The Clinical Nurse Consultant was located in the Cardiology Department, St George Hospital, Gray St Kogarah and the CESPHN Project Officer at the CESPHN office, Level 3, 15 Kensington St, Kogarah. Funds for the project were managed by SESLHD and CESPHN.

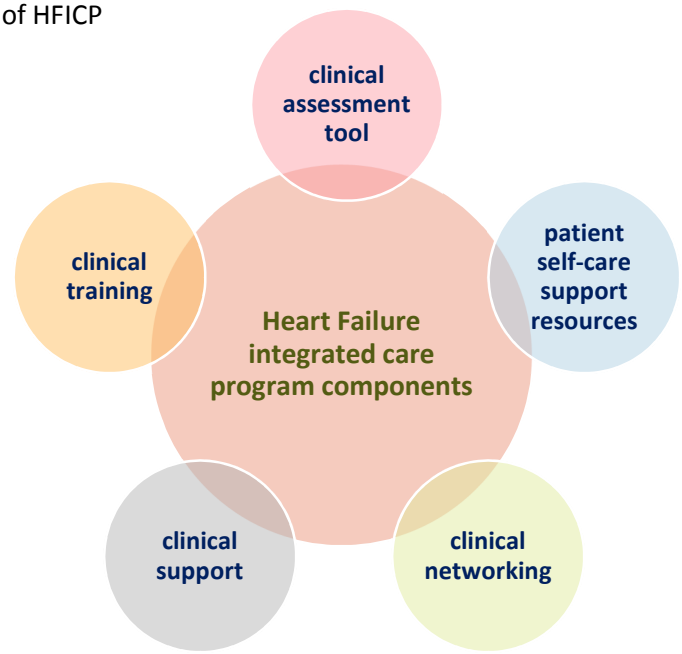
Description of project

An Integrated Care Model for management of HF was developed involving General Practice clinicians and hospital-based cardiology clinicians (inpatient and outreach / home based chronic care management programs) in South Eastern Sydney. Participating General Practice staff included General Practitioners, Practice (Primary Health Care) Nurses and Practice Managers.

Components of the HFICP model (Figure 2.):

- **Patient self-care support resources**: concise, consumer-friendly patient self-care resources with content that is consistent across the two clinical settings
- **Clinical Assessment tool:** patient HF assessment form, able to be embedded in the electronic clinical management system of the General Practice
- **Clinical training:** General Practitioner and Practice Nurse training; written resources & face-to-face training
- **Clinical support:** Telephone contact with hospital based HF specialist clinical nurse consultant (CNC)
- **Clinical Networking:** ongoing telephone contact and opportunity to network with broad range of clinical nurse consultants, through provision of CNC contact lists in hard copy and on website of Central and Eastern Sydney PHN.

Figure 2. Components of HFICP



Methodology & Implementation

Recruitment

General Practices were recruited to the project via:

- Direct approach at GP or PN Continuous Professional Development (CPD) events/forums
- Direct approach by CESPHN Practice Support team at practice visits
- CESPHN Weekly Updates & newsletters

Eligibility criteria: located in the SESLHD i.e. in the St George or Sutherland regions; employ at least one PN; use an electronic clinical management system.

Description of participating General Practices

Six General Practices agreed to participate in the project. Each practice had a lead contact person, usually a Practice Nurse and occasionally a Practice Manager. The lead Practice Nurse passed on information to other Practice Nurses and the GPs. Some practices had a lead GP who was involved in activities that embedded activities in the practice workflow. Some practices did not have a lead GP and the project relied on the lead Practice Nurse to engage the GPs.
The six General Practices were a combination of small practices and large corporate centres with co-located pharmacy and other allied health services. Several practices had additional General Practitioners registrars. The Practice characteristics are shown in Table 1. (CESPHN Chilli DB - 2017).

Table 1. Practice Characteristics

General Practice	Practice Characteristics	
	# non-registrar GPs	# PNs
Practice 1	12	7
Practice 2	7	4
Practice 3	6	3
Practice 4	6	2
Practice 5	2	2
Practice 6	3	1

Electronic Clinical Management Systems

Electronic clinical management systems used by the six General Practices included: *Best Practice; Medical Director and Zed Med.* These clinical management systems were utilised to a varying degree by General Practice staff with key functions being: patient notes; test results; appointments; and billing.

Overview of implementation strategies

Process of informing the development of resources and program structure

General Practice resource development was initially focused on providing a comprehensive training program for heart failure management supported by detailed national guideline based information [3]. Although clinically thorough and incorporating high level detail, this approach was soon identified as being off-putting to Practice Nurses due to the volume of information presented. Practice Nurses did not feel that heart failure was a high clinical priority nor that that they had to become experts in heart failure management, rather they required a more streamlined approach. In response, an abridged version was developed, outlining key aspects of heart failure diagnosis and management. This condensed version was well received by Practice Nurses.

Observation point: Practice Nurses do not want to be overwhelmed with detail

A further observation which was made early in the project timeline was that far from the tsunami of patients presenting to hospitals with heart failure, participating General Practices could only identify relatively modest numbers of patients with a diagnosis of heart failure attending their practice. This assessment was formed on the basis of both anecdotal recall and a search of relevant electronic patient management systems. Although the small numbers of heart failure patients identified may partially be attributed to inconsistent coding between General Practitioners, the results were still unexpectedly low.

Observation point: a perceived hospital crisis is not necessarily a crisis for Primary Care

These observations prompted the project team to reflect on some of the key assumptions that influenced the initial project approach. In order to gain a greater understanding of hospital to General Practice discharge patterns, it was decided to conduct a review of patients discharged from St.George hospital with a diagnosis of heart failure (DRG F62A and F62B). This review was undertaken using discharge data from a 28 month period between January 2014 and May 2016.

Review of hospital discharges

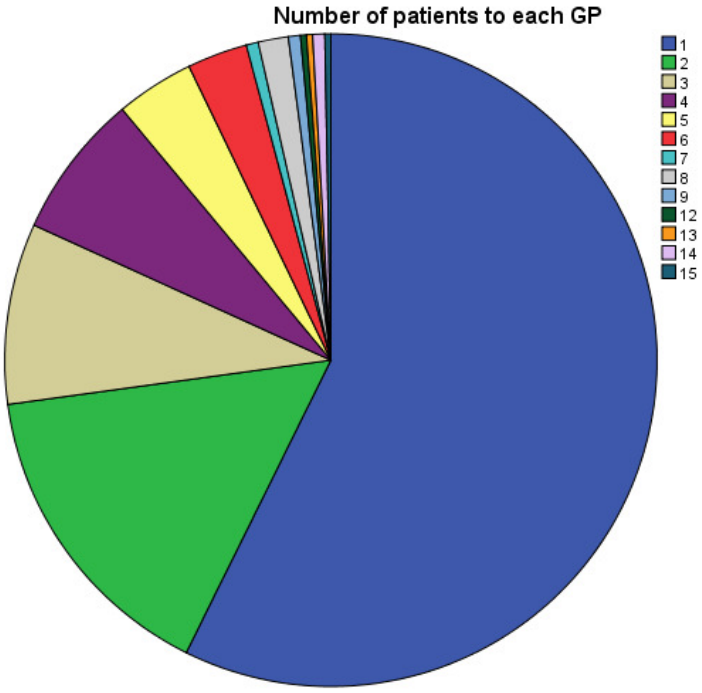
The St.George Hospital performance unit assisted with data extraction. Data were analysed using descriptive statistics through IBM SPSS statistical software package version 22.

During the period between January 2014 and May 2016 there were 1200 discharges (attributed to 803 individual patients) from St.George Hospital with a primary or secondary diagnosis of heart failure (DRG F62A & F62B). These patients were discharged to a total of to 328 General Practitioners from 229 General Practices (Table 2. & Graph 1.)

Table 2. Number of patients discharged per General Practitioner

Number of patients discharged per General Practitioner over 28 months	
Median	1.0
Range	14.0
Minimum	1.0
Maximum	15.0

Graph 1. Number of individual patients discharged to individual General Practitioner (n=328)

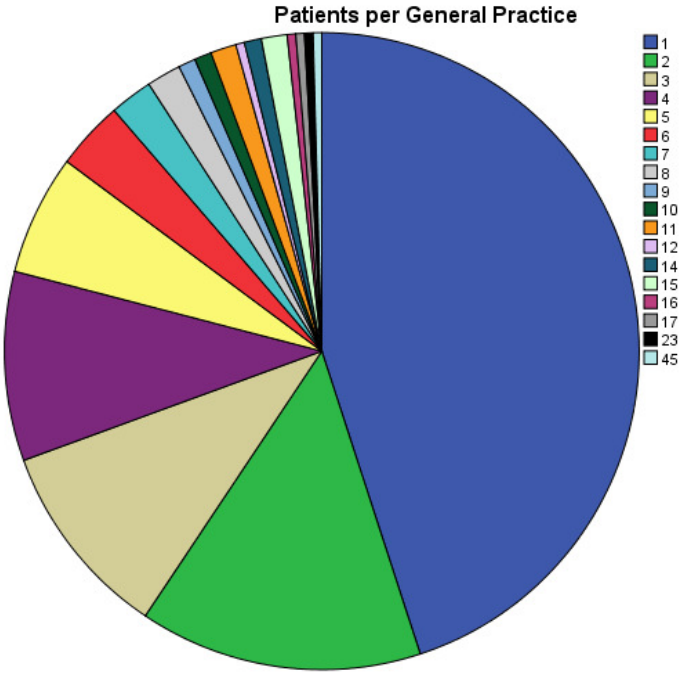


The mean number of patients discharged from St.George Hospital to each General Practitioner over a 28 month period was 2.2 with a minimum of 1 and maximum of 15. These relatively low numbers were further reflected in total activity for a group General Practice, with a median of 3.35 patients being discharge to a practice from St.George Hospital over a 28 month period with a minimum of 1 and maximum of 45 (Table 3. & Graph 2.).

Table 3. Number of patients discharged to a General Practice over 28 months

Patients per General Practice over 28 months	
Median	2.00
Range	44
Minimum	1
Maximum	45

Graph 2. Patients per discharge per Group General Practice (n=229)



Summary of findings from review of hospital discharges

The overwhelming majority of General Practitioners and General Practices received a lower than expected number of patients discharged from hospital with a diagnosis of heart failure. This can be seen as a dilutional effect resulting from the large number of General Practitioners in the St.George area.

In addition, General Practice staff also reported inconsistent coding of a heart failure diagnosis in electronic patient management systems by General Practitioners (e.g. heart failure, CCF, congestive cardiac failure, APO, LVF) making it difficult to search and identify patients with heart failure.

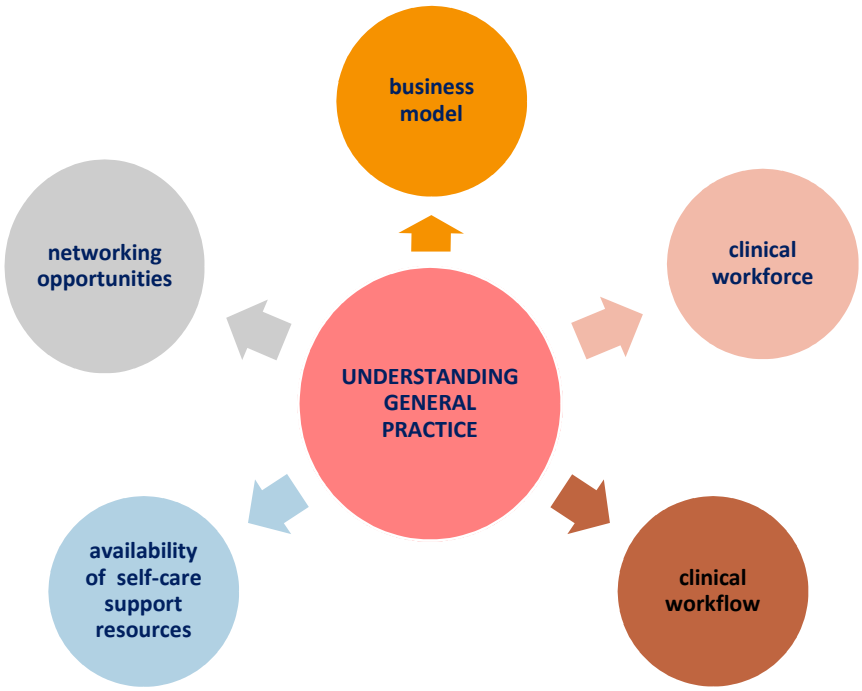
This information highlighted limitations in the project team's understanding of General Practice.

Understanding the needs of General Practice

From the review of hospital discharges it became evident that the design of a heart failure model of care must first have an appreciation of the busy General Practice environment and the requirement for competence in the assessment and management of a wide range of clinical presentations. The hospital and CESPHN based project team members recognised their own limited understanding and experience of working in the General Practice environment.

In order to gain greater insight into General Practice and develop appropriate resources, the following areas were explored and findings summarised: *clinical workforce; workflow; business model; access to resources; networking opportunities* (Figure 3).

Figure 3. Understanding General Practice



Clinical Workforce

There was a great variation in General Practice workforce and structure as captured in participating practice characteristics table (Table 1.). There was also variation in the number of General Practices that employed Practice Nurses. Relationships between GPs and PNs also varied with some having a closer working relationship and greater care collaboration than others. Younger GPs appeared more likely to utilise PNs for a wider range of clinical support. GP Management Plans (MBS item 721) – involved Practice Nurses contributing to GP Management Plans in some practices but in others the GP was not aware that a Practice Nurse could contribute.

Workflow

Practices were all described as busy with some high volume sites having short 10 minute appointment times to address single health issues only. Any additional health problems raised during the consultation required another appointment. There was variation in the number of Practices that conduct GP Management Plans (MBS item 721). There was also variation in how General Practices use their Practice Nurse workforce for clinical care and administrative roles. Among participating General Practices, there were very few examples of Practice Nurses routinely engaging in structured chronic disease management. The most frequent tasks performed by Practice Nurses included immunisations, vaccinations, and dressings.

Business model

General Practices operate as small businesses and attention to associated business models to support income generation is essential for General Practice engagement. There was limited use of opportunities for the Practice Nurse to directly contribute to income generation through Practice Nurse MBS item numbers or contributing to GP Management Plans. Practice Nurses have the ability to contribute to income generation as outlined below:

- ***MBS item 10997*** Monitoring and support for a person with chronic disease
- ***MBS item 721*** GP management plan for a chronic or terminal medical condition

Under Item 10997, a Practice Nurse provides monitoring and support service to a person with a chronic disease care plan between the more structured reviews of the care plan by the patient's usual GP. This can include: checks on clinical progress; monitoring medication compliance; self-management advice; collection of information to support GP reviews of Care Plans.

Services are available to patients with a GP Management Plan, Team Care Arrangements or Multidisciplinary Care Plan in place (MBS items 721, 723, 729, 731, 732) and claimable for up to five services per patient in a calendar year.

Ideally, the chronic disease management plan would be informed by a comprehensive hospital discharge summary and transition plan sent to the patient's General Practice following discharge. The plan of care would be shared and integrated between hospital and General Practice. GPs and PNs with appropriate infrastructure and collegial support are well placed to engage in chronic disease management working as an integrated team with hospital based counterparts.

Access to resources

Electronic management systems such as Best Practice and Medical Director have the capacity to document clinical assessments and track parameters (blood pressure, heart rate, weight) over time, allowing for patterns of deterioration to be monitored. However, these features were not routinely used. In addition, General Practices had limited access to written self-care support resources for heart failure such as basic information explaining heart failure, fluid and salt restrictions or a chart to record daily weight.

Networking opportunities

Practice nurses described limited opportunities for professional networking and identified no contact with hospital based clinical nursing staff. Professional development opportunities were limited to industry promotions and CESPHN Practice Nurse professional development evenings. The reaction to these limited opportunities was best captured with a practice nurse describing working as a nurse in General Practice as "*out here in never-never land*".

Development of Resources

This review of General Practice enabled the project team to progress the development of a model of care that would most appropriately meet the needs of General Practice. The following chronic disease management clinical resources were developed:

- *Heart Failure clinical management information*
- *Heart Failure Clinical Assessment*
- *Patient self-care support resources*
- *Additional support resources*

Heart Failure clinical management Information

The development of clinician heart failure education resources were refined and simplified in order to be proportionate to the perceived volume of patients with heart failure seen by General Practice clinicians. The original comprehensive clinical management guidelines were accompanied by a short executive summary or '*what you need to know*' type documents. These were particularly well received by practice nurses as an introductory overview of heart failure management incorporating heart failure aetiology, routine investigations, signs and symptoms, pharmacological and non-pharmacological management, a heart failure action plan and a flowchart for managing deterioration of HF symptoms consistent with evidence based guidelines[3] (Appendix 9).

Heart Failure Clinical Assessment

A key feature of effective chronic disease management is conducting regular clinical assessments to allow early detection of clinical deterioration. As primary care providers, General Practice clinicians have the opportunity to conduct longitudinal clinical assessments but often lack formal heart failure assessment and clinical escalation processes. With an improved understanding of General Practice needs and workflow, a heart failure clinical assessment tool was developed with underlying principles of being simple, concise and reflecting current practice of inpatient and home based hospital services (appendix 8).

Both the self-care support and clinical assessment resources were initially developed to be paper based but were changed to be compatible with existing General Practice electronic clinical management systems and workflow

Patient self-care support resources

Effective chronic disease management requires the ability of the patient to engage in recommended self-care behaviors in order to reduce symptoms and improve quality of life. Health professionals can support self-care through reinforcing recommendations and providing appropriate self-care support resources. With evidence of limited self-care support resources available in General Practice, relevant resources were developed. The patient education handouts include:

- Fluid Balance (1000ml, 1200ml, 1500ml) (Appendices 1-3)
- HF Action Plan (Appendix 4)
- HF Information (Appendix 5)
- Eat less Salt (Appendix 6)
- Daily Weight (Appendix 7)

The documents were sourced, in part, from the St George Hospital Heart Support Service. All documents were reviewed by senior nursing and medical clinicians to ensure consistency with national and international best practice recommendations. The CESPHN Communication team undertook final design and formatting of the handouts.
To ensure that patient education resources were easily understood by consumers and suitable for use in General Practice, these resources were reviewed by two Practice Nurses (employed in different General Practices in the St George region), a consumer representative from the HFICP Steering Committee and two reviewers of the St George Hospital Consumer Advisory Committee.

Additional Support resources

Two other resources were created by members of the Steering Committee for use in the project:

- Flowchart outlining the opportunities of using the documents in General Practice (Appendix 10)
- Directions to upload documents onto Clinical Management System, such as Best Practice & Medical Director (Appendix 11&12)

General Practice visits to support implementation of resources

Project support was provided through multiple site visits by the project Clinical Nurse Consultant (CNC) to participating General Practices to provide support, discuss project progress, identify barriers and help formulate solution options. Importantly, these site visits contributed to a greater understanding of General Practice clinical workflow and business models. The Project Officer also attending on several occasions.

The HFICP model aimed to embed the clinical assessment and self-care support resources into electronic clinical management systems using familiar functionalities without impacting on existing practice workflow. The CESPHN eHealth officer provided invaluable expertise and support in incorporating these resources within General Practice electronic management systems.

These clinical support resources were further supported by focused face to face heart failure professional development initiatives for both General Practitioners and Practice Nurses.

Professional Development for General Practice clinicians

Professional development opportunities for General Practice clinicians in the management heart failure included:

1. General Practitioner Heart Failure Management training event
2. Practice Nurses Heart Failure Management training event

1. General Practitioner: Heart Failure Management training - August 2016

This event was conducted by a cardiologist from St George Hospital. Approximately 15 GPs attended this training evening.
The learning outcomes for participants were to:

- Examine the pathophysiology of heart failure including neuro-hormonal systems.
- Address the significant burden heart failure places on patients, caregivers and healthcare systems.
- Review current approaches for the diagnosis and management of heart failure including updates from latest national and international guidelines.
- Discuss trigger moments that occur in a patient with heart failure, which require intervention.
- Discuss the optimal management of patients with heart failure to improve patient outcomes.
- Provision of telephone contact with Clinical Nurse Consultant/Nurse Practitioner, and through this position, to the Cardiologist.
- Inform of Novartis online HF training for GPs to commence in mid-June 2017.

The CPD event was evaluated positively.

2. Practice Nurse: Heart Failure Management training - October 2016

The event was conducted by a Heart Failure Nurse Practitioner from St George Hospital at CESPHN - 29 Practice Nurses attended this training event.

The key objectives of the training for participants were to:

- Have a greater understanding of heart failure and its causes
- Know the signs and symptoms of heart failure
- Have a greater knowledge of pharmacological and non-pharmacological management of heart failure.

The CPD event was evaluated positively:

"*I feel more confident to identify potential patients with heart failure, and provide a better patient education about medication and side effects"*

"Loved the case studies and the illustrations. Very interesting presentation and presenter very knowledgeable"

Clinician Collaboration: Practice Nurse - Clinical Nurse Consultant Network

In addition to written national guideline based resources and professional development evenings, a professional networking meeting was held between St.George Hospital and Sutherland Hospital Clinical Nurse Consultants and St.George and Sutherland region Practice Nurses (PN).

The catalyst for this meeting came from participating PNs identifying the absence of a structured communication and consultancy process between PNs and hospital based CNCs, despite both groups caring for the same patient population.

Practice point: we are looking after the same people – we should know each other

Although professional practice standards of CNCs, Nurse Practitioners and PNs mandate networking with other healthcare providers and integrating service delivery (Table 4.), in practice there were no such formal communication structures in place. Discussion with other PHNs revealed that none had knowledge of formal communication networks between hospital based clinical nurse consultants and Practice Nurses.

Table 4 Professional Practice Standards – networking and integration with other health providers

• **Clinical Nurse Consultant** **Domain: Clinical Service and Consultancy:** *The Clinical Nurse / Midwife Consultant provides expert clinical advice to patients, carers and other health care professionals within a defined specialty. The Clinical Nurse / Midwife Consultant develops, facilitates implementation and evaluates care management plans for patients with complex health needs [20]*
• **Practice Nurse** **STANDARD 22 of National practice standards for nurses in general practice:** *liaises effectively with relevant agencies and health professionals to facilitate access to services and continuity of care [21].*
• **Nurse Practitioner** **Standard 2. Plans Care and engages others:** *Collaborates with other health professionals to make and accept referrals as appropriate. Consults with and/or refers to other health services, disability services, aged-care providers and community agencies at any point in the care continuum[22].*

Networking between health care providers is a recommendation of the 2016 NSW Clinical Service framework for chronic heart failure: *Standard 7 – multidisciplinary and continuing care and rehabilitation for patients with CHF*. In addition, building such relationships between the hospital and primary care clinicians is consistent with NSW Integrated Care Strategy i.e. *better communication and connectivity between health care providers in primary care, community and hospital settings* (http://www.health.nsw.gov.au/integratedcare/Pages/integrated-care-strategy.aspx).

The professional networking evening meeting took place on May 10th 2017 at CESPHN as part of their continuing professional development (CPD) Program for Practice Nurses. In response to requests, an invitation was extended to interested General Practitioners.

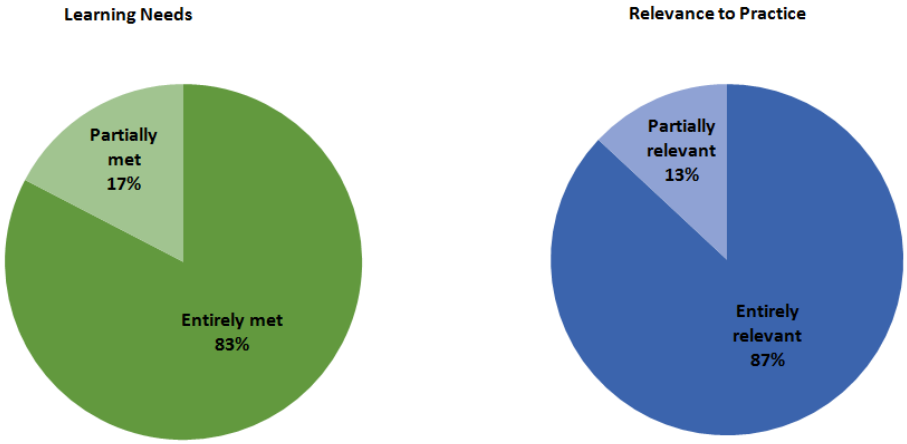
Attendance included 17 Practice Nurses, 2 General Practitioners and 11 Clinical Nurse Consultants from St.George Hospital and Sutherland Hospital.

The meeting provided an overview of the CNC and PN positions in order to increase understanding of each other's roles and to support appropriate referral and clinical collaboration opportunities. Further matters which were discussed included shared collective values and the strengths and weaknesses of current communication relating to transition of care between Hospital and General Practice.

Evaluation

The networking activities of this event were evaluated extremely positively with plenty of discussion, questions and information sharing, best summarised by a comment by one of the attending practice nurses; *"the most useful networking event I have ever been to "*.

Graph 3. Evaluation of learning needs met and relevance to practice



Suggestions for future communication and relationship building included:

- CNC visits to Practices
- Increasing awareness among CNC's of the Practice Nurse role
- Share more education event information on websites and access to ongoing workshops
- Notification of education sessions run by CNCs
- Knowing who and where to phone to get information
- Knowing that CNCs are approachable and helpful

The role of the Practice Nurse in Australian Primary care is still in development with roles and responsibilities evolving [9, 10, 17, 18, 23, 24]. To date, General Practitioners have demonstrated limited understanding of the professional scope and value of nursing and the potential contribution to General Practice [25]. The formation of supportive and collegial relationships between hospital based Clinical Nurse Consultants and Primary care based

Practice Nurses will assist to lay a foundation for collaborative practice and a framework for care transition from hospital to primary care based services. Importantly, this networking evening recognised that to fully support the development of the Practice Nurse role networking initiatives should not be restricted to single disease conditions.

To ensure accessibility to both resources and clinical support the following were developed by the CNCs from St.George and Sutherland hospitals:

1. ***Directory of CNCs/Clinical Midwife Consultants (CMCs)*** at the St George Hospital and at The Sutherland Hospital for Practice Nurses who work in the St George and Sutherland areas
2. ***Hosting on CESPHN website***
    - St George and Sutherland Hospital Clinical Nurse Consultants/Clinical Midwifery Consultants list

These can be located online: https://www.cesphn.org.au/services-and-support/services-hospitals

Evaluation of the Heart Failure Integrated Care Project

Evaluation Process

A project evaluation plan was developed by the CESPHN Project Officer and the Program Logic (page 11) shows the aims, activities, and anticipated outcomes of the project. It was recognised that long term outcomes were unlikely to be achieved given the short duration of the project. The project evaluation had the following focus:

- *Level of engagement obtained from General Practice clinicians (GPs and PNs).*
- *An understanding of the current level of General Practitioner and Practice Nurse knowledge and involvement in the management and monitoring of patients with heart failure.*
- *The development of a primary care based heart failure chronic disease management model compatible with General Practice workflow and acceptability of this model to primary care clinicians.*
- *The development of clinical resources to support the assessment of patients with heart failure in General Practice and resources to support self-care recommendations.*
- *Level of communication and strength of relationships between hospital and General Practice clinicians both during project and extending beyond duration of the project.*

A decision was made not to proceed with evaluating the project from a patient perspective due to the longer than expected time taken to finalise a model of care that would be compatible with General Practice workflow. The steering committee anticipates that an evaluation of the patients experience will take place in the post project phase once embedded within hospital and General Practice systems of care.

Members of the Steering Committee with cardiac expertise and knowledge of international cardiology evaluation literature (nurse practitioner/clinical nurse consultant/cardiologist) contributed to drafting of the evaluation tools. The Project Officer undertook the evaluation planning, data collection and analysis. The CNC and Practice Nurses were instrumental in distributing and encouraging return of evaluation tools.

Process evaluation

Process evaluation used data collected through a log of contact with General Practice and attendance at events.

Impact evaluation

Impact evaluation used data collected through the following methods:

1. Pre-Project Survey of participating PNs and GPs
2. Focus group for PNs & GPs of the involved General Practices
3. Face -to-face and telephone discussion with PNs and GPs
4. Written Stakeholder Reflection of members of the Steering Committee

Data analysis

Project logs and records were manually checked for pertinent details of project implementation. The pre-project surveys were analysed using simple descriptive statistics for the quantitative elements and using thematic techniques for the qualitative questions.

Ethics Approval

Ethics approval for a 'Low and Negligible Risk' project and evaluation was obtained from the SESLHD Ethics Research Committee - 17/014 (LNR/17/POWH/45).

Evaluation Results

1. Pre-Project Survey of participating PNs and GPs

A Pre-Project Survey was completed by six GPs and five PNs to gain an understanding of current practice surrounding heart failure management and identify clinical focus areas.

1a. Pre-Project Survey - Practice Nurse

The Practice Nurses involved in the Pre-Project Survey were all Registered Nurses with either 1-10 years or more than 21 years of experience as an RN. As a PN, most had 1-5 years of experience. 50% of the PNs were employed full time and 50% were employed part-time or casual.

The PNs held a strong interest in developing their skills in HF management, including knowledge of signs and symptoms of HF and understanding of the treatment principles. PNs felt their knowledge skills were most lacking in educating patients about their HF condition and understanding the medications prescribed for HF.

PNs were keen to become more involved in chronic disease management with every PN in the survey indicating an interest in expanding their role. PNs identified numerous areas where heart failure management may be improved, including: improvement in coding to help identify heart failure patients; better education for patients; professional development to improve knowledge of heart failure management; assessment skills; and, information on referral pathways.

The PNs current skill set included measuring weight, blood pressure and pulse of HF patients. The range of other HF-related current skills included:

- Assess for specific HF symptoms e.g. increased breathlessness, fatigue, paroxysmal nocturnal dyspnea, orthopnoea
- Perform ECG
- Assess for peripheral oedema
- Provide medication management / advice
- Give HF self-management education

Knowledge of HF was also tested. The PNs' knowledge was excellent for identifying signs of a worsening HF condition that requires monitoring by a health professional. There were some deficits in PNs' knowledge in the areas of gastro-intestinal system-related signs and medications.

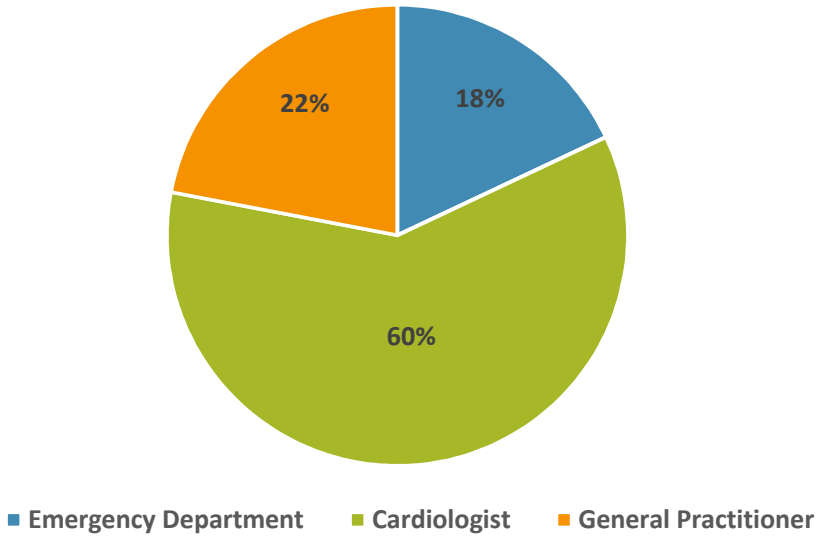
1b. Pre-project survey - General Medical Practitioners

The majority of the General Medical Practitioners participating in the Pre-Project Survey had experience ranging from 11-20 years to more than 30 years. One GP had 1-10 years of experience.
General Practitioners felt that they had role to play in the management of heart failure and were well placed to provide this care. Most felt confident in overall management of HF, diagnosing, staging, titrating medications and monitoring patients. However, some other GPs were more ambivalent about their role in performing HF tests, titrating medications, and initiating medication treatments.
It was noted that not all patients with heart failure present to hospital and that hospitals were seen to want to 'hand the patient over' to General Practice in the long term. It was also recognised that some General Practices may have insufficient specialised knowledge and self-care support processes to provide this care. Importantly, GPs recognised the potential for the Practice Nurse to contribute to HF management

GPs were asked about who manages HF patients in their practice and percentages in each category of service provider. GPs referred 5% - 40% of HF patients to the Emergency Department (average 18%); 40% - 85% of HF patients to a cardiologist (average 60%), and GPs managed 10% - 50% of HF patients themselves (average 22%) (Figure 4.). The key symptoms for which a GP referred a HF patient to the Emergency Department were dyspnea, hypotension and new onset of HF. The key reasons why GPs referred HF patients to a cardiologist were suspected diagnosis of HF and for initiation of treatment after HF diagnosis.

Participating General Practices currently require PNs to undertake the following HF related skills: *perform 12 lead ECG, measure weight and measure BP, HR.*

Figure 4. Heart Failure Management in General Practice



2. Focus group for PNs & GPs of the involved General Practices

A focus group of four PNs and two GPs was conducted an independent facilitator on 17th May 2017. It was felt that a combined multidisciplinary group of health practitioners would allow a broader exploration of issues arising during the project. Participants were offered a payment of $120 for one hour's involvement to compensate for their time.

The questions addressed by the Focus Group included:

1. Change in confidence or consistency in approach to management of HF patients
2. Use of resources
3. Changes in workflow in relation to HF patient management
4. Change in feelings of support between General Practice and Hospital
5. Capacity to broaden this model of Integrated Care to other chronic diseases
6. 'Blue-sky' future of seamless management of HF between hospital and General Practice

Audio recording of the Focus Group was transcribed and analysed. Notes of the Focus Group dialogue were also included in the analysis. The audio recordings were transcribed and checked with the scribed notes. A thematic content analysis was performed with four main themes emerging from the data. These four themes were:

- Experience
- Process
- Impact
- Learning

*(*full report available on request)*

Experience

The overall experience of participants towards the project was positive. This was underpinned by the perception that the project had provided useful resources and a clear pathway for the management of patients with heart failure. A further positive contributing factor was the establishment of a relationship with the hospital through the clinical nurse consultant with key attributes of the CNC being described as enthusiasm, knowledge and a welcoming attitude.

Process

The process used to establish the project was viewed favourably with the use of standardised tools across the hospital and General Practice providing consistency and continuity and being valued highly. Participants also acknowledged the importance of having a process where General Practice and hospital clinicians worked as a team.

Participants identified the importance of a thorough and accurate discharge summary with accurate medication instructions. However, most current discharge summaries were described as inconsistent in quality.

It was raised that practice staff have difficulty in identifying patients with heart failure through their electronic management systems and thought that standardised codes within their practice setting may help identify patients for targeted assessment, preventative measures and education.

Impact

The participants commented that the heart failure project had increased their confidence in the management of heart failure and improved communication lines with the hospital had increased their confidence to seek consultancy. Participants acknowledged that these impacts may be dampened in future if CNC contact was not maintained on an ongoing basis.

Participants valued the patient self-care support education material but felt the utility of these materials would be enhanced if they were available in other languages.

Learning

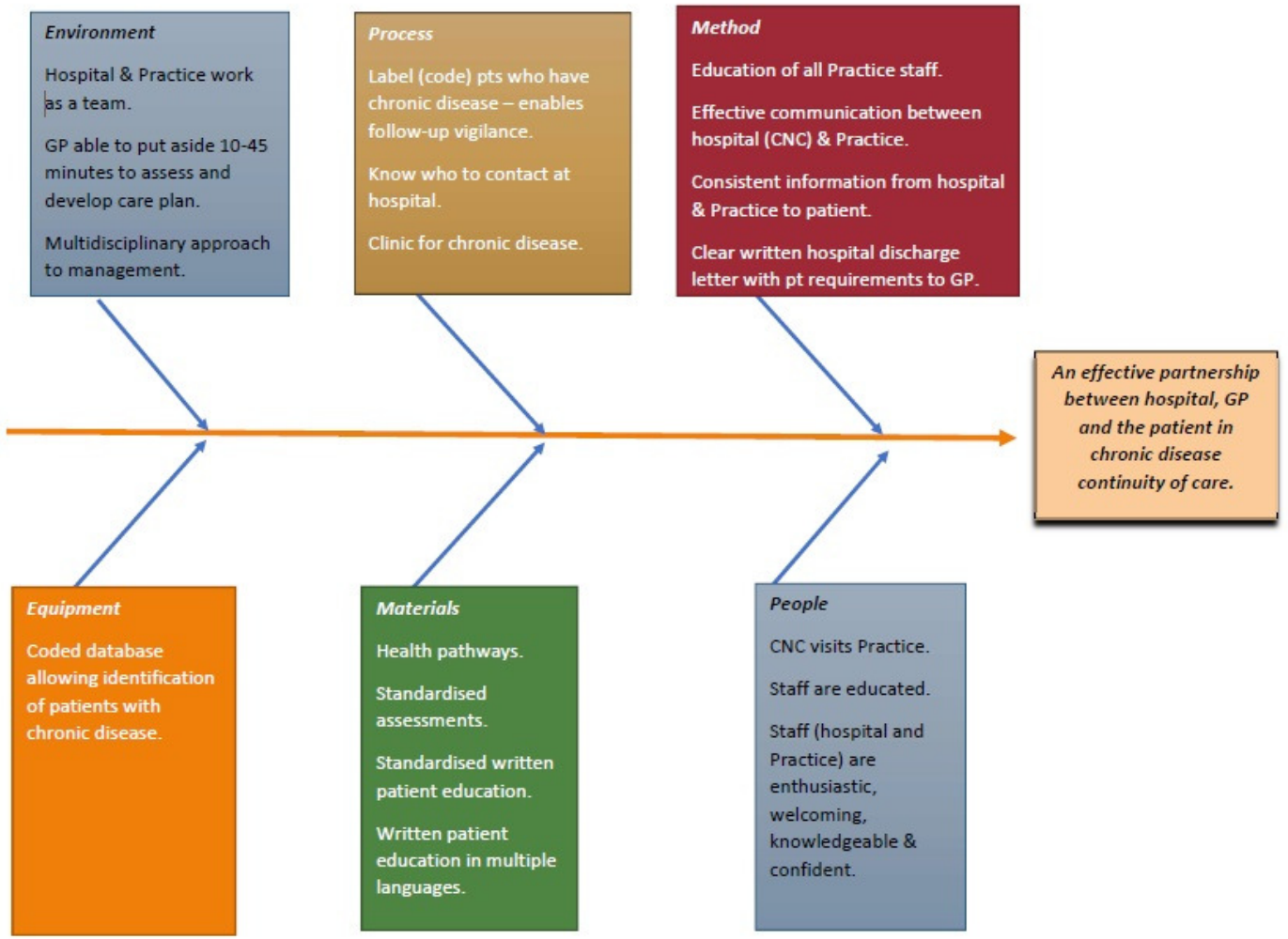
Participants stated that they had learnt many things about heart failure assessment and management. Of note, some of the Practice Nurses were now confident in educating their peers in heart failure. Much of this confidence was attributed to the hospital CNC who visited the Practices and provided education. The resources were considered useful but further education was still thought to be required. It was felt that an online health information portal HealthPathway for heart failure would be very useful. The use of standardised education material provided Practice staff with confidence in supporting patients to self-care.

Importantly, participants could see how this project could be expanded to include other chronic disease conditions such as chronic kidney disease, diabetes and chronic respiratory disease.

The future

A solution focused fishbone analysis (Figure 5) was developed from the focus group data. This analysis highlights what would need to be in place for an effective partnership between the hospital, General Practice and the patient in chronic disease continuity of care. Of particular importance are the methods and materials contribution.

Figure 5. Heart Failure Integrated Care Project - Solution focused fishbone



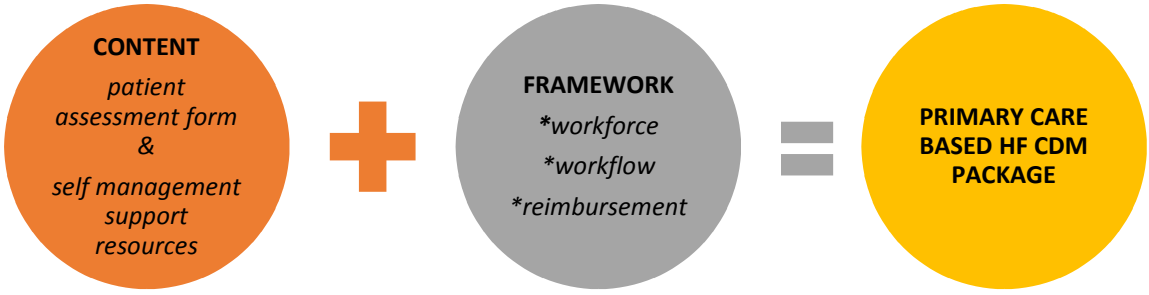
3. Face -to-face and telephone discussion with PNs and GPs

Field notes were taken during the course of the project to capture observations gained through face to face and telephone interaction with General Practitioners and Practice Nurses. Many of the key learnings of the project were from informal discussions and brainstorming of ideas. These ideas contributed to the project development and informed project priorities.

- *PNs would welcome a closer relationship with hospital based CNCs for professional support. It was a PN that asked about the availability of a contact list for Practice Nurses to be able to contact hospital based CNCs.*
- *GPs would also like access to CNCs as they feel that a major stumbling block to communicating about a patient is knowing who to contact in the hospital. They also identified some inertia amongst GPs in contacting specialist services or clinicians.*
- *GPs were not sure about the practicalities of implementing chronic disease management in General Practice - concerned about ability to create time in context of a busy workflow.*
- *GP discussed how they might put forward a cost effective proposal to their Practice Manager: chronic disease patients need a care plan (good reimbursement) and regular reviews (moderate reimbursement) and this could offset the cost of employing a PN to contribute to chronic disease management. This would be in addition to the $12 PN payment received for chronic disease management (MBS item 10997).*
- *GPs do not always understand potential scope of practice of PN and unsure of opportunities to expand role.*
- *Some GPs were not aware that PNs can contribute to a care plan while others routinely used practice nurses to make significant contributions to a care plan.*
- *GP suggestion - after initial post discharge assessment, patient could have regular pre-booked monitoring appointment (in X weeks time) – having care plan allows 6 follow-up visits for monitoring.*
- *GPs receptive to the idea of a CNC supervised chronic disease management clinic every 3 months – providing an opportunity to develop skills of PNs.*

It was clear that there were significant differences in business models and the way that General Practices functioned both in General Practitioner workflow and utilisation of the Practice Nurse role. Such insights support an argument for presenting General Practice with a package of heart failure chronic disease management clinical content as well as a framework for delivery, incorporating concepts of workforce, workflow and reimbursement (Figure 6).

Figure 6. Components of Primary Care based HF CDM



4. Stakeholder Reflection

Members of the Steering Committee provided written comments in response to questions addressing:

Project aims; strengths & weaknesses; working structure, communication; change in knowledge of General Practice & opportunities to develop future partnerships; challenges; risks for future roll out; influence on existing models of care and opportunities for future change.

Summary of key themes identified:

- Greater understanding of General Practice
- Connection between primary health care and hospital-based services – alignment for integrated care
- Successful establishment of a partnership model
- Opportunities for future change in the way patients with heart failure are managed in the hospital and primary health settings

Strengths of Project

Positive relationships were formed between project collaborators, SESLHD, CESPHN and Novartis as well as with clinicians of the participating General Practices. All respondents felt that the Heart Failure Integrated Care project had been successful in achieving its aims, with the development of the resource package and its availability to General Practitioners and Practice Nurses seen as particularly useful. The project evolved with increased understanding of the priorities, challenges, and workflow of General Practice. The knowledge gained about General Practice workflow, activity and capacity was thought to be beneficial, particularly in relation to exploring the capacity of GPs and PNs to look after patients with heart failure and the development of a model of care to support this.

Weaknesses of Project

The recruitment of practices was slower than expected resulting in a limited number of participating Practices. In addition, the project was rolled out over a period of high clinical activity and with some turnover of project staff. It is acknowledged that the success of integration is unclear due to the limited number of General Practices involved and the restricted timeframe of the study.

Despite numerous attempts to recruit, the absence of a GP on the steering committee was disappointing. The early start time (7.30) of the steering committee meetings and required travel made it difficult for GPs to fit the committee meetings in with their clinical responsibilities. Of those practices that were recruited there was some difficulty in engaging all of the practice staff with a tendency to have local champions to progress the project. It also took some period of time to establish trust and understanding between hospital and CESPHN staff as there was initial uncertainty of what each could bring to the project, perhaps reflecting some of the challenges of collaborating across service frontiers. There were some staffing limitations within existing hospital based services with key positions unfilled during planned leave compromising some of the hospital based project structure.

Identifying patients with heart failure attending General Practices proved more difficult than anticipated. As previously identified, there were a limited number of patients discharged from hospital to participating practices during the implementation phase of the project.

Project Impact and Outcomes

The aims of the HFICP have been achieved:

1. A primary care based chronic disease management model for heart failure has been developed in collaboration with General Practitioners and Practice Nurses.
2. General Practitioner & Practice Nurse knowledge and confidence in HF management has been enhanced.
3. It has been demonstrated that Practice Nurses have the interest, knowledge and capacity to add value to chronic disease management in General Practice by monitoring and providing self-care support.
4. Communication and networking has been improved between primary health and hospital based clinicians.

Impact of Heart Failure Integrated Care Model - GENERAL PRACTICE

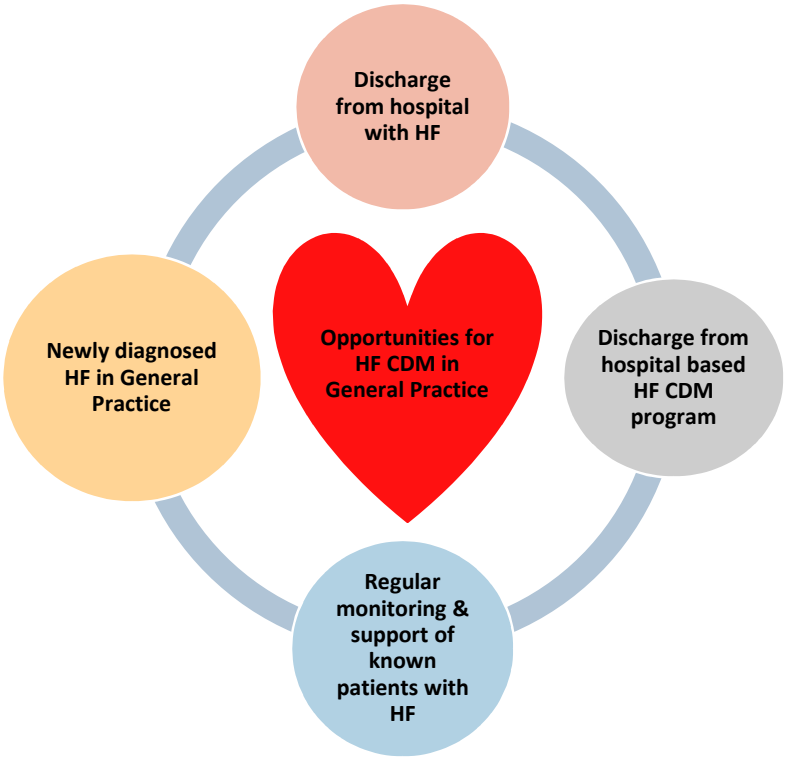
Opportunities for HF chronic disease management in General Practice

The HFICP model identifies four opportunities to intervene in the management of a patient with HF:

- Newly diagnosed HF in General Practice
- Discharge from hospital with HF
- Discharge from hospital based HF Chronic Disease Management (CDM) program
- Regular monitoring and support of patients with known HF

Each of these occasions is an opportunity to provide education, assessment and monitoring of the patients' condition and to support self-care. The inclusion of these patients would increase the number of patients in General Practice that could potentially benefit from a primary care based chronic disease management (Figure 7).

Figure 7. Opportunities for Heart Failure Chronic Disease Management in General Practice



Summary

Understanding discharge patterns from hospital to General Practitioner may assist in identifying those General Practices with higher volumes of heart failure patients. Hospital performance units are able to sort discharge GP by DRG codes. However, in order to do this it is important for GP information to be verified and documented in hospital electronic management systems.

Impact of Heart Failure Integrated Care Model - HOSPITAL

The heart failure integrated care project has successfully developed a heart failure chronic disease management model to support the transition of patients from hospital to primary care. Further, the HFICP provides the opportunity to overcome service fragmentation and to develop improved communication, supportive relationships, and an ongoing network between hospital and General Practice clinicians to create a sustainable and transferable model for care integration.

Clinical care in heart failure is predominantly carried out in three main service delivery settings:

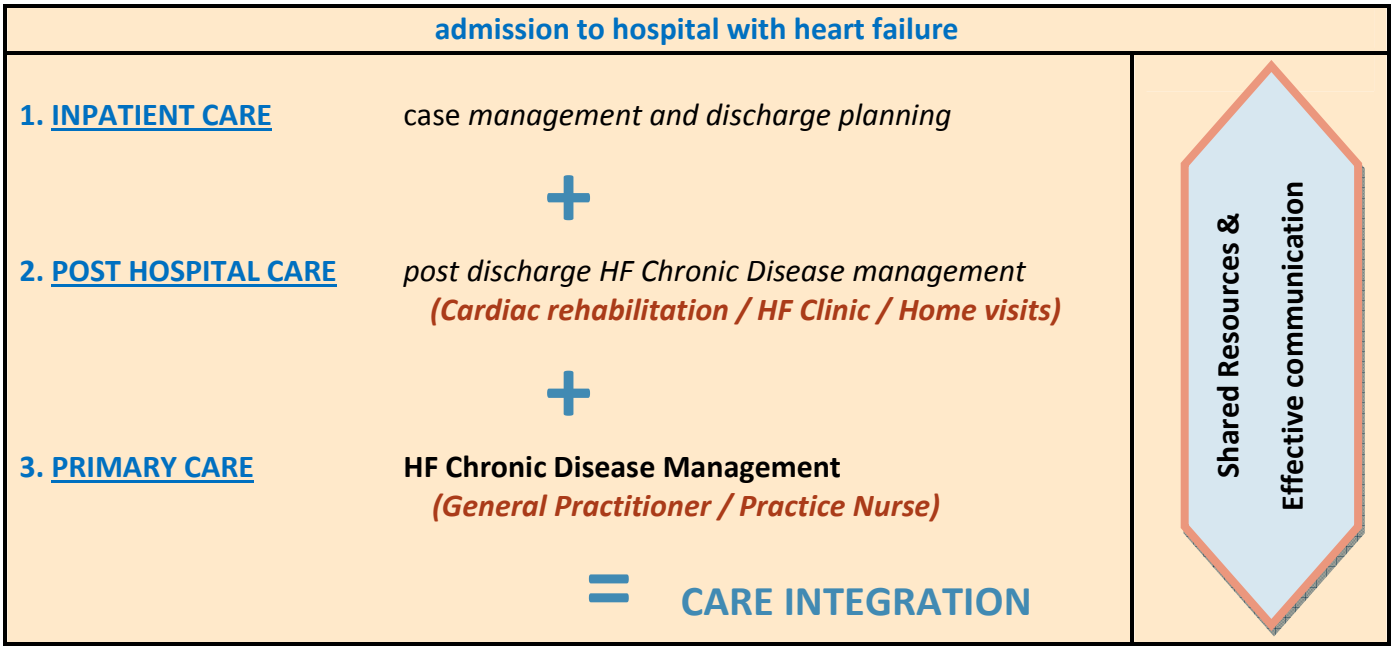
1. Hospital based in-patient care
2. Hospital based post discharge HF chronic disease management (outpatient cardiac rehabilitation, clinic based care and nurse led home based care)
3. Primary care – General Practice clinicians (GPs and PNs)

Nurse led hospital based heart failure chronic disease management programs were first demonstrated to reduce readmission and improve survival over twenty years ago by Rich et al. in the US and in the Australian context by Stewart in 1999 [26] [27]. Since this time such programs have flourished throughout Australia with access to a post discharge heart failure management program now a Grade A recommendation in national heart failure management guidelines [3, 15]. However, less progress has been made on a more recent recommendation by the National Heart Foundation that we should challenge current processes and structures, exchange information across clinical networks, and foster awareness, communication and partnerships across service delivery boundaries [15].

It would seem logical that the experience, expertise, learnings and developed resources gained by established hospital based heart failure disease management programs be shared across service delivery boundaries i.e. with primary care clinicians. This would ensure effective communication processes and consistent self-care support resources are featured throughout care settings and across the patient health care journey.

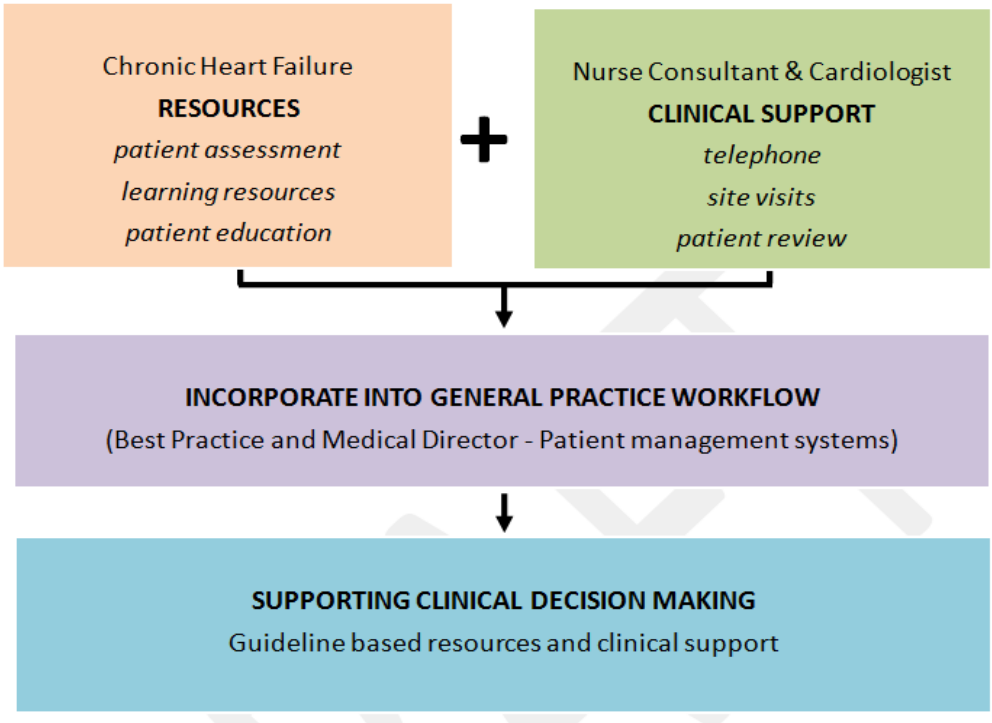
The heart failure integrated care model accommodates the patient journey extending across service delivery boundaries and provides a common heart failure integrated care model, consistent messages, information and resources throughout hospital based inpatient care, outpatient and home based care and the transition to primary care based General Practice. Importantly, this model commits to sharing resources and the development of communication networks between hospital and primary care based clinicians – supporting clinical confidence and creating opportunities for ongoing clinical collaboration throughout a patient's illness trajectory. There is acknowledgement that that both hospital and primary care based clinicians contribute to the patient management and that free flowing communication is required to achieve the best outcomes (Figure 8).

Figure 8. Heart Failure Integrated Care Model



With inpatient care and post hospital care models already established, the HFICP focused on sharing experience, expertise and resources to develop a primary care based heart failure chronic disease management model, effectively extending the model of care across service delivery frontiers (Figure 9).

Figure 9 Primary Care based chronic disease management



Conclusion

The HFICP was a collaborative project between South Eastern Sydney Local Health District, Central and Eastern Sydney PHN and Novartis Australia. This partnership of two public health utilities spanning Primary, Secondary and Tertiary healthcare and a private pharmaceutical company is an innovative model to explore a shared interest in strengthening relationships and improving the transition of care between hospital and General Practice clinicians. Novartis representatives were supportive and flexible as the model of care evolved in response to project learnings.

Hospital based members of the HFICP team gained a greater understanding of the challenges of General Practice with issues such as rapid workflow, opportunities for remuneration and the range of clinical conditions creating a complexity of service provision not experienced in a specialty based hospital setting. The introduction of changes for improved HF management into this complex environment required succinct resources and processes that take into account challenges experienced in the General Practice setting.

The HFICP has provided a considered suite of resources to support heart failure management with key opportunities identified for their use in General Practice. These resources are available on the Central and Eastern Sydney PHN website for sustainable access. In addition, General Practice clinicians have received clinical support to improve their knowledge and confidence in the management of heart failure through professional development events and written resources.

The project identified the interest and capacity of Practice Nurses to play a greater role in chronic disease management. Through professional development, education and training, Practice Nurses can assume a more active role in cardiovascular disease management and seize an opportunity to advance their role in Australian General Practice.

There is an improved understanding of the capacity of General Practice to manage a broader range of chronic diseases using the Integrated Care Model developed in the HFICP. The model identified that the different frontiers of service delivery (inpatient case management, hospital based chronic disease management programs and primary care based chronic disease management programs) have a shared need for improved communication, assessment and self-care support resources to support patients in managing chronic disease. Collaboration between clinicians and the sharing of resources standardises the approach to what is clearly a shared patient care experience, creating efficiencies and ongoing opportunities for networking and collaboration.

Finally, the HFICP has made progress in strengthening the connections between Practice Nurses and hospital-based Clinical Nurse Consultants. The promotion of the CNC consultancy role to Practice Nurses, as well as the opportunities available to CNCs through collaborating with Practice Nurses, has significant potential to strengthen professional links that will nurture future models of care integration and improve patient outcomes.

Recommendations

1. Implement the Heart Failure Integrated Care model within St.George hospital heart failure services

Establish heart failure integrated care model as part of a care transition suite of resources offered to General Practices for patients *discharged from hospital* or *transitioned from outpatient and home based chronic care services* (Figure 10.).

1.1 **Discharge from hospital to General Practice**

Inpatient management to include:

- Provision of evidence based in-patient management
- Written self-care support information for patient and carers
- Verification of General Practitioner and availability of Practice Nurse support
- Structured discharge summary to include clear transition plan and contact details of Clinical Nurse Consultant who is available to assist with navigating and responding to immediate queries regarding discharge summary and the proposed post discharge management plan
- Transition plan to include planned follow-up with cardiac rehabilitation or home based services
- Link to Heart Failure chronic disease management assessment and self-care support resources through CESPHN website

1.2 **Transition from outpatient and home based chronic care services to General Practice**

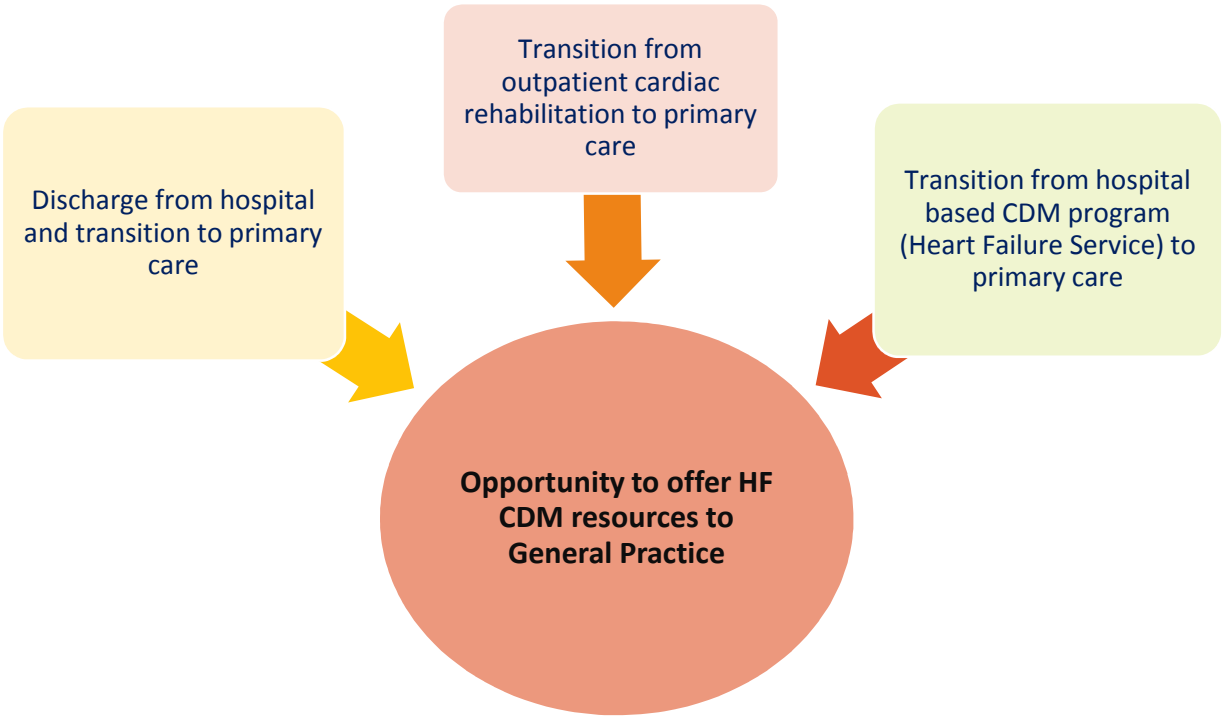
- Clear communication to General Practice on entry to and discharge from services
- Community based services actively seek to engage General Practices with shared patient care to offer ongoing heart failure management support to General Practitioners and Practice Nurses
- Promote and support Heart Failure chronic disease management assessment and self-care support resources through CESPHN website

1.3 **Primary Care HF CDM model and resources offered to General Practices**

- Link to resources on discharge summary with contact details for hospital based Heart Failure CNC / Nurse Practitioner i.e. **please find heart failure support resources at* http://cesphn.org.au/chronic-disease-management/cardiovascular/resources-and-links

- Resources offered to General Practice by Cardiac Rehabilitation and Heart Support Service as part of transition of care following discharge from service

Figure 10. Opportunities to engage General Practice with HFICP



2. Building capacity in primary health care

- Work with General Practice to identify HF patients who have not presented to hospital and assist in reducing coding variability
- Work with interested General Practices to establish nurse-led chronic disease management clinics supported by hospital based clinical nurse consultants
- Develop efficiencies and synergies for the patient journey between inpatient care, hospital based outreach services and General Practice

3. Sustainability

Incorporating Primary Care HF CDM model and resources into sustainable infrastructure

- Incorporate the HF patient self-care resources into HealthPathways
- Incorporate the Clinical Nurse Consultant/Clinical Midwifery Consultants list into Health Pathways for SESLHD
- Enable CESPHN to play an ongoing role in facilitating connections between CNCs/CMCs and PNs through provision of events for networking, education, collaborative project planning etc.

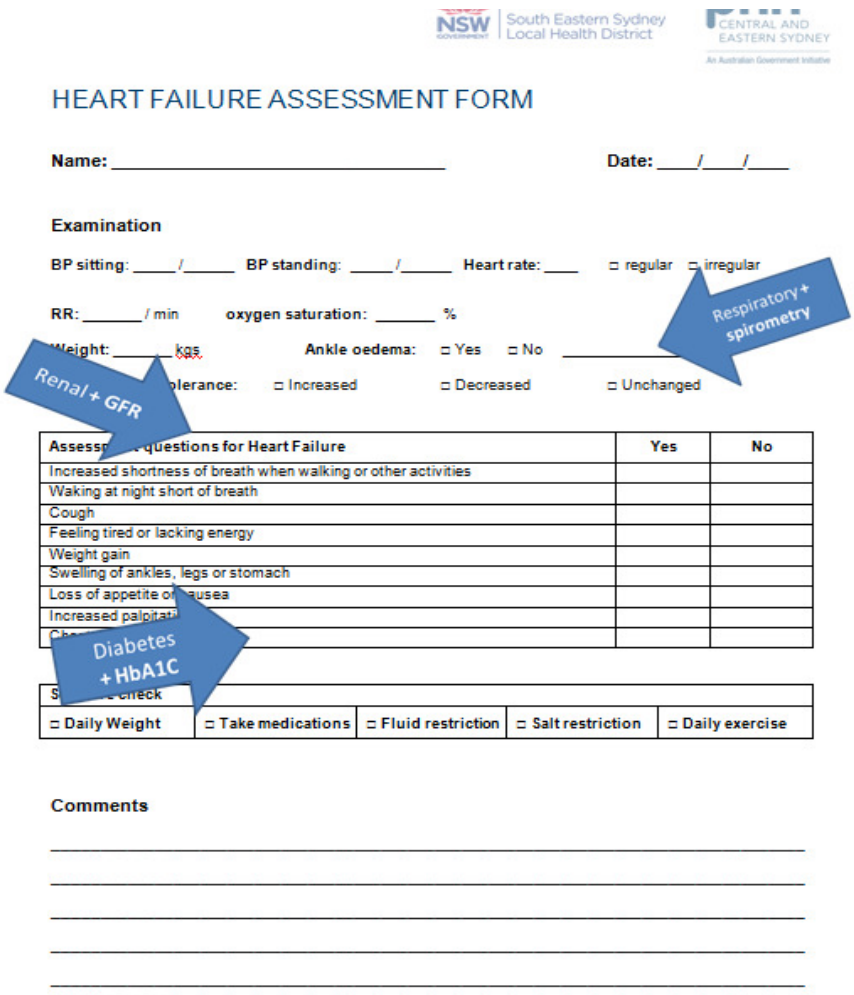
Future Direction

Transferability - expansion to other chronic disease conditions

General Practice is at the centre of Australian Government reform to manage chronic disease. Importantly, the HFICP model of care is readily transferable to other chronic disease conditions such as respiratory disease (Chronic Obstructive Pulmonary Disease) chronic kidney disease and chronic endocrine disorders (diabetes) that do not have an existing program of care integration between hospital and primary health care (Figure 11.). Indeed, the addition of other chronic diseases only strengthens the model's utility and usefulness to General Practice clinicians and creates opportunities for collaboration among specialty based hospital services.

To progress this initiative at St.George Hospital, an Integrated Care-Chronic Disease Group has been established with a view to developing a primary care based chronic disease model. Current group participants include Clinical Nurse Consultants from cardiology, diabetes, renal, respiratory, liver disease and wound care. Associate Professor Ivor Katz, Nephrologist, provides the medical lead and Sharon Fitzgerald representing HealthPathways Sydney provides advice on future transitioning of the model to the HealthPathways Sydney platform.

Figure 11. Expanding from heart failure to other chronic diseases



External Reporting and dissemination of learning

Publications

- **Heart Failure Integrated Care Project Report (August 2017)**

Aims for future publication 2017 – 2018

Journal Targeted: Australian Health Review

1. *Heart Failure Chronic Disease Management in General Practice – integrating care between hospital and primary care*
2. *"We should know each other": Primary Care Practice Nurses and hospital based Clinical Nurse Consultants – integrating care in chronic disease management*

Conference Presentations

- **AUSTRALIAN PRIMARY HEALTH CARE NURSES ASSOCIATION NATIONAL CONFERENCE 2017**

  May 4th-6th 2017 Hobart, Tasmania.

  - *Bridging the gap for heart failure: Primary Care and Hospital* *Poster presentation*
  - *BRIDGING THE GAP: Heart Failure Integrated Care - a collaborative chronic disease management model in South Eastern Sydney* *(Appendix 13)* *Pre-conference PHN workshop oral presentation*

- **HEART FAILURE CONGRESS 2017 - NOVARTIS AUSTRALIA**

  17-18 June 2017 Brisbane, Queensland

  Heart Failure Integrated Care: a collaborative chronic disease management model in South Eastern Sydney *Oral Presentation*

- **THE HEALTH ROUNDTABLE 2017 - HEALTH ROUNDTABLE INNOVATION WORKSHOPS AND AWARDS**

  26-27 July 2017 Brisbane, Queensland.

  OUR CRISIS IS NOT THEIR CRISIS: Heart Failure chronic disease management in hospitals and primary care. *Moderated Poster Presentation*

- **CARDIAC SOCIETY OF AUSTRALIA & NEW ZEALAND ANNUAL SCIENTIFIC MEETING 2017**

  10-13 August 2017 Perth, Western Australia

  Integrating Care: Developing a Primary Care Chronic Heart Failure Disease Management Program - a Tertiary Hospital / General Practice Partnership *Poster Presentation* (Appendix 14)

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Appendices

Appendix 1. 1000ml Fluid Restriction

1000ml FLUID RESTRICTION

Your Doctor has requested that you limit the amount of fluid that you consume.

The following information may help you achieve this.

A fluid is anything that is liquid at room temperature.
This includes soup, juice, ice-cream, jelly, custard, yoghurt, sauces and gravies.
Alcohol is also considered as fluid.

The plan below is a guide to your daily fluid intake. One cup = 250mls fluid.

Breakfast	100ml of milk for cereal & 100ml water, juice, tea or coffee
Morning Tea	200ml water, juice, tea or coffee
Lunch	100ml water, juice, tea or coffee
Afternoon Tea	200ml water, juice, tea or coffee
Dinner	100ml water, juice, tea or coffee
Supper	200ml water, juice, tea or coffee

Some hints to make this a little easier:

- Keeping to a low salt diet will make it easier to maintain your fluid restriction
- Spread your fluid intake over the day
- Sucking ice cubes, chewing gum, or using mouthwash to keep your mouth fresh and moist

Please speak to your practice nurse if you would like further information about your fluid restriction.

Current as of December 2016
Source: Heart Support Service
St George Hospital
South Eastern Sydney Local Health District

Reviewed By Community Advisory Group Working together

NSW GOVERNMENT Health
South Eastern Sydney
Local Health District

Appendix 2. 1200ml Fluid Restriction

1200ml FLUID RESTRICTION

Your Doctor has requested that you limit the amount of fluid that you consume.

The following information may help you achieve this.

A fluid is anything that is liquid at room temperature
This includes soup, juice, ice-cream, jelly, custard, yoghurt, sauces and gravies.
Alcohol is also considered as fluid.

The plan below is a guide to your daily fluid intake. One cup = 250mls fluid.

Breakfast	150ml of milk for cereal & 150ml water, juice, tea or coffee
Morning Tea	200ml water, juice, tea or coffee
Lunch	200ml water, juice, tea or coffee
Afternoon Tea	200ml water, juice, tea or coffee
Dinner	200ml water, juice, tea or coffee
Supper	100ml water, juice, tea or coffee

Some hints to make this a little easier:

- Keeping to a low salt diet will make it easier to maintain your fluid restriction
- Spread your fluid intake over the day
- Sucking ice cubes, chewing gum, or using mouthwash to keep your mouth fresh and moist

Please speak to your practice nurse if you would like further information about your fluid restriction.

Current as of December 2016
Source: Heart Support Service
St George Hospital
South Eastern Sydney Local Health District

Reviewed By Community Advisory Group
Working together

NSW GOVERNMENT Health
South Eastern Sydney
Local Health District

Appendix 3. 1500ml Fluid Restriction

1500ml FLUID RESTRICTION

Your Doctor has requested that you limit the amount of fluid that you consume.

The following information may help you achieve this.

A fluid is anything that is liquid at room temperature
This includes soup, juice, ice-cream, jelly, custard, yoghurt, sauces and gravies.
Alcohol is also considered as fluid.

The plan below is a guide to your daily fluid intake. One cup = 250mls fluid.

Breakfast	150ml of milk for cereal & 150ml water, juice, tea or coffee
Morning Tea	250ml water, juice, tea or coffee
Lunch	250ml water, juice, tea or coffee
Afternoon Tea	250ml water, juice, tea or coffee
Dinner	250ml water, juice, tea or coffee
Supper	200ml water, juice, tea or coffee

Some hints to make this a little easier:

- Keeping to a low salt diet will make it easier to maintain your fluid restriction
- Spread your fluid intake over the day
- Sucking ice cubes, chewing gum, or using mouthwash to keep your mouth fresh and moist

Please speak to your practice nurse if you would like further information about your fluid restriction.

Current as of December 2016
Source: Heart Support Service
St George Hospital
South Eastern Sydney Local Health District

Reviewed By Community Advisory Group Working together

NSW GOVERNMENT Health
South Eastern Sydney
Local Health District

Appendix 4. Heart Failure Action Plan

Name: .....

HEART FAILURE ACTION PLAN

It is important to regularly monitor your symptoms

Symptoms that you should look out for and what you should do if they occur.

Discuss with your doctor or nurse

- Rapid weight gain or loss of more than 2 kgs in 2-3 days
- Progressive swelling or pain in the abdomen
- Increasing swelling of the legs or ankles
- Worsening dizziness
- Loss of appetite / nausea
- Increasing fatigue
- Worsening cough

Inform your doctor or nurse as soon as possible if you experience

- Increasing shortness of breath
- Waking up short of breath
- Needing more pillows to sleep
- Rapid heart rate or worsening palpitations

Call for immediate HELP by ringing 000 if you experience

- Persistent chest pain that is not relieved by your angina medicine
- Severe and persistent shortness of breath
- Fainting

My local Doctor (GP)

_____

Phone number

_____

My local Cardiologist

_____

Phone number

_____

My local Heart Failure Clinic Nurse

_____

Phone number

_____

My local Pharmacist

_____

Phone number

_____

Current as of December 2016

Source: Heart Support Service
St George Hospital
South Eastern Sydney Local Health District

Reviewed By Community Advisory Group Working together

NSW GOVERNMENT Health
South Eastern Sydney Local Health District

Appendix 5. Heart Failure Information Sheet

Reviewed By Community Advisory Group — Working together

NSW Government | Health | South Eastern Sydney Local Health District

HEART FAILURE INFORMATION SHEET

What is Heart Failure?

Heart Failure is an ongoing condition in which the heart muscle is weakened and can't pump as well as it normally does. It is not the same as a heart attack.

If the heart muscle is weakened and cannot pump strongly enough, fluid tends to build up in the body. You may notice this as increased shortness of breath, swelling in the ankles or feet or a swollen stomach. You can help your condition by making healthy lifestyle choices, taking your medications and keeping appointments.

Daily check list

- Weigh yourself daily
- Fluid restriction
- Low salt diet
- Medications
- Exercise daily
- Report symptoms

Weigh yourself daily

When the heart muscle is weakened fluid can build up in the body causing shortness of breath and swelling of the ankles and feet. Because fluid puts on weight a good way to monitor fluid build-up is to weigh yourself each day.

For example one litre of fluid will correspond to a one kilogram weight gain. Gaining weight for a few days in a row may be a sign that you are retaining extra fluid.

Salt restriction

Excessive salt in your diet can cause your body to hold onto fluid and make your symptoms worse. Most processed foods have a high salt content and you may be eating high amounts of salt without realising it. It is easy to reduce the amount of salt that you use by being aware which foods are high in salt. Talk to your doctor, dietitian or practice nurse for more details on low salt diets.

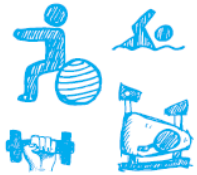
Fluid restriction

If you have excess fluid in the body you can prevent further build-up by restricting the amount of fluid you drink. Your doctor or practice nurse will be able to tell you how much fluid you should be drinking each day.

If you have a sudden and unexplained weight gain of more than 2 kg (4lb) over 2 to 3 days you should contact your local doctor or practice nurse.

Take your medications

Your doctor will have prescribed medications to help your heart failure. Take your medications exactly as prescribed and do not stop taking a medication without first consulting your doctor. You can discuss any questions you may have about the medications you are taking with your doctor, pharmacist or practice nurse.



Exercise every day

Staying active will help your strength, independence and make you feel better. It is a matter of finding the right balance between rest and exercise. You should aim to exercise as much as you can without getting too tired or short of breath, or making your heart beat too fast. Your doctor or practice nurse will be able to give you more information on how much exercise is right for you.

Report symptoms promptly

If you notice your symptoms are getting worse, such as if you are more short of breath, get short of breath of a night time, have increased swelling of the ankles or are more easily tired, it is very important to seek medical advice.

My local Doctor (GP)

_____

Phone number

_____

My local Cardiologist

_____

Phone number

_____

My local Heart Failure Clinic Nurse

_____

Phone number

_____

My local Pharmacist

_____

Phone number

_____

Current as of December 2016

Source: Heart Support Service | St George Hospital | South Eastern Sydney Local Health District

Appendix 6. Eat less sodium

EAT LESS SODIUM (SALT)

It is important to remember that most of the salt you eat comes from supermarket and take-away foods.

When shopping, try to buy low-salt and no-added-salt foods:

1. Look for the per 100g column
2. Look for SODIUM
3. Consider buying if sodium is less than 120mg / 100g

This panel is found on most packaged foods

Example on food product

NUTRITION INFORMATION

Servings per package: 8.5
Serving size: 60g

	Per 60g serve	Per 100g
ENERGY	870kj	1450kj
PROTEIN	6.6g	11.0g
FAT	5.0g	8.4g
CARBOHYDRATE		
-TOTAL	35.6g	59.3g
-SUGARS	11.8g	19.7g
DIETARY FIBRE		
TOTAL	7.9g	13.2g
WATER SOLUBLE	2.1g	3.5g
CHOLESTEROL	NIL	NIL
SODIUM	40mg	**80mg**
POTASSIUM	350mg	580mg

Aim for less than 120 mg per 100g

Current as of December 2016
Source: Heart Support Service
St George Hospital
South Eastern Sydney Local Health District

Reviewed By Community Advisory Group
Working together

NSW GOVERNMENT Health
South Eastern Sydney Local Health District

Appendix 7. Daily Weight Chart

Name: .....

DAILY WEIGHT CHART

If you have a sudden and unexplained weight gain of more than 2 kg (4lb) over 2 to 3 days you should contact your local doctor or practice nurse.

DATE	WEIGHT	DATE	WEIGHT	DATE	WEIGHT

Current as of December 2016
Source: Heart Support Service
St George Hospital
South Eastern Sydney Local Health District

Reviewed By Community Advisory Group
Working together

NSW GOVERNMENT Health
South Eastern Sydney
Local Health District

Appendix 8. Heart Failure Assessment Form

NSW GOVERNMENT Health
South Eastern Sydney Local Health District

phn CENTRAL AND EASTERN SYDNEY
An Australian Government Initiative

PRACTICE NURSE HEART FAILURE ASSESSMENT FORM

Name: _____ **Date:** ____/____/____

Examination

BP sitting: _____ /_____ **BP standing:** _____ /_____ **Heart rate:** ____ ☐ regular ☐ irregular

RR: _____ / min **oxygen saturation:** _____ %

Weight: _____ kgs **Ankle oedema:** ☐ Yes ☐ No _____

Exercise tolerance: ☐ Increased ☐ Decreased ☐ Unchanged

Assessment questions for Heart Failure	Yes	No
Increased shortness of breath when walking or other activities		
Waking at night short of breath		
Cough		
Feeling tired or lacking energy		
Weight gain		
Swelling of ankles, legs or stomach		
Loss of appetite or nausea		
Increased palpitations		
Chest discomfort		

Self-care check				
☐ Daily Weight	☐ Take medications	☐ Fluid restriction	☐ Salt restriction	☐ Daily exercise

Comments

_____

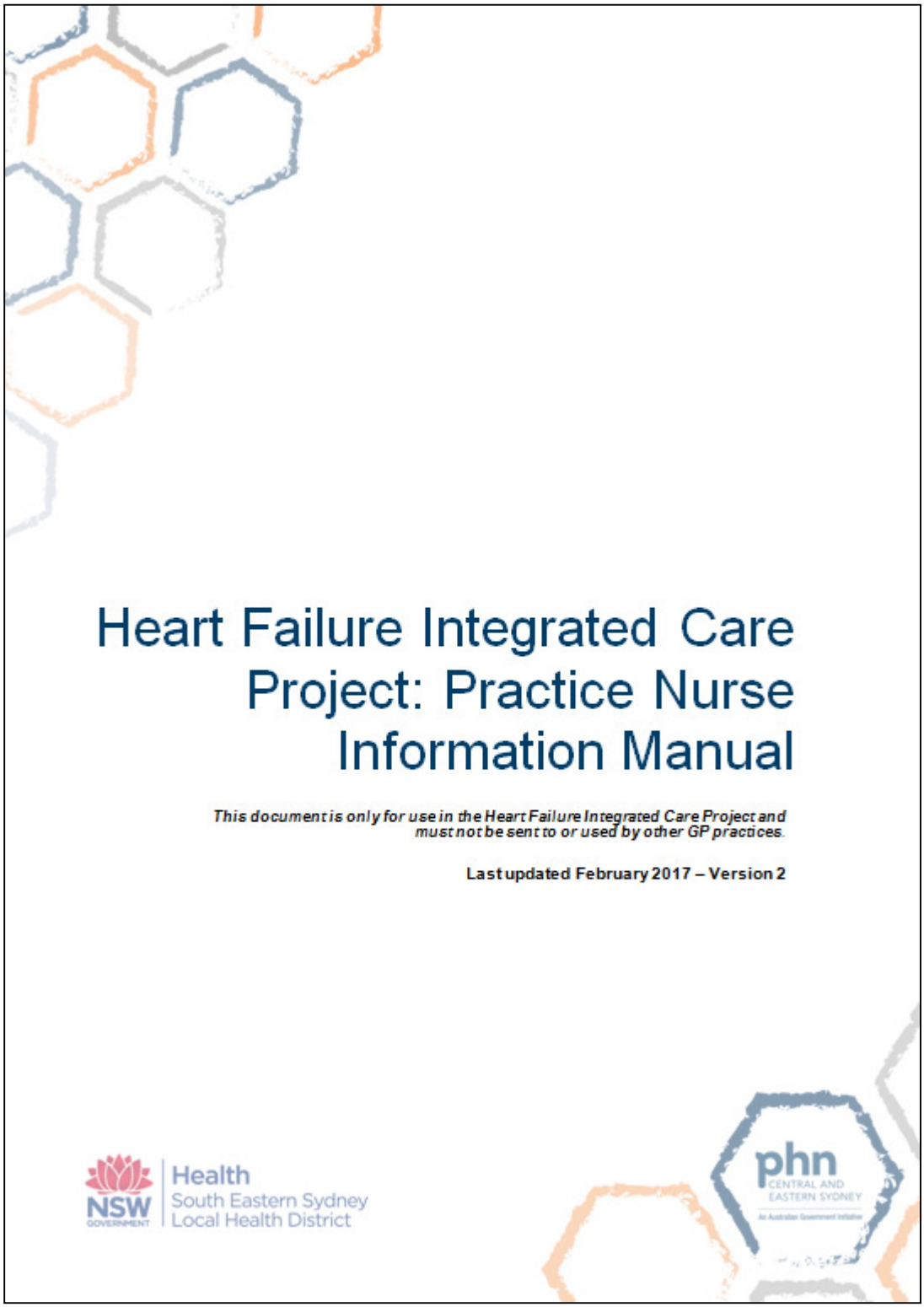
_____

_____

_____

_____

Appendix 9. Heart Failure Information Manual



Heart Failure is a condition in which the heart can't pump enough blood to meet the body's needs. Currently heart failure has no cure, however treatments such as medications and lifestyle changes can help people live longer and more active lives.

Heart Failure is classified as either:

HFrEF: Heart Failure with reduced ejection fraction (systolic heart failure).
The heart muscle is weakened and unable to contract adequately. Patients with this form of HF have a lower ejection fraction on echo.

HFpEF: Heart Failure with preserved EF (diastolic heart failure).
The muscles of the heart contract normally but the thickened heart muscle may retain a small volume of blood. The amount that is ejected is often inadequate to meet the body's requirements. This form of heart failure is related to aging.

Aetiology (most common)

- Ischaemic Heart Disease
- Hypertension
- Valvular Heart Disease
- Idiopathic dilated Cardiomyopathy

Investigations

Echocardiography	Essential in diagnosing heart failure
Bloods	UEC, LFT, FBC, CRP, Thyroid Function, INR etc
ECG	Useful in detection of an AMI and arrhythmias. A normal ECG is uncommon
Chest X-Ray	Evaluates cardiac size, shape & pulmonary congestion

Signs and Symptoms of Heart Failure

Signs of Heart Failure	Symptoms of Heart Failure
Tachycardia	dyspnoea
Pulsus alternans - arterial pulse waveform showing alternating strong and weak beats	orthopnoea
elevated JVP	paroxysmal nocturnal dyspnoea
displaced apex beat	reduced exercise tolerance
crepitations or wheeze	lethargy, fatigue
3rd heart sound	nocturnal cough
Oedema	wheeze
Hepatomegaly	ankle swelling
Ascites	anorexia
cachexia and muscle wasting	

Pharmacological Management

Medications	Names and/or Examples
Angiotensin Converting Inhibitors OR	Ramipril, Lisinopril, Enalapril etc
Angiotensin II Receptor Blockers OR	Candesartan, Irbesartan etc
Angiotensin Receptor Neprilysin Inhibitor	Entresto
Beta-blockers	Carvedilol, Bisoprolol, Nebivolol, Ext release Metoprolol
Mineralcorticoid Receptor Antagonists	Spironolactone or Eplerenone
Diuretics - Loop	Frusemide (Lasix)
Diuretics - Thiazide	Hydrochlorothiazide
Vasodilators	Nitroglycerin
Digoxin	
Anti-arrhythmics	Amiodarone
Anti-coagulants	Warfarin, Dabigatran, Rivaroxaban, Apixaban
Ivabradine	Coralan

Source: Guidelines for the prevention, detection and management of chronic heart failure in Australia Updated July 2011. National Heart Foundation of Australia and the Cardiac Society of Australia and New Zealand. http://www.csanz.edu.au/resources/

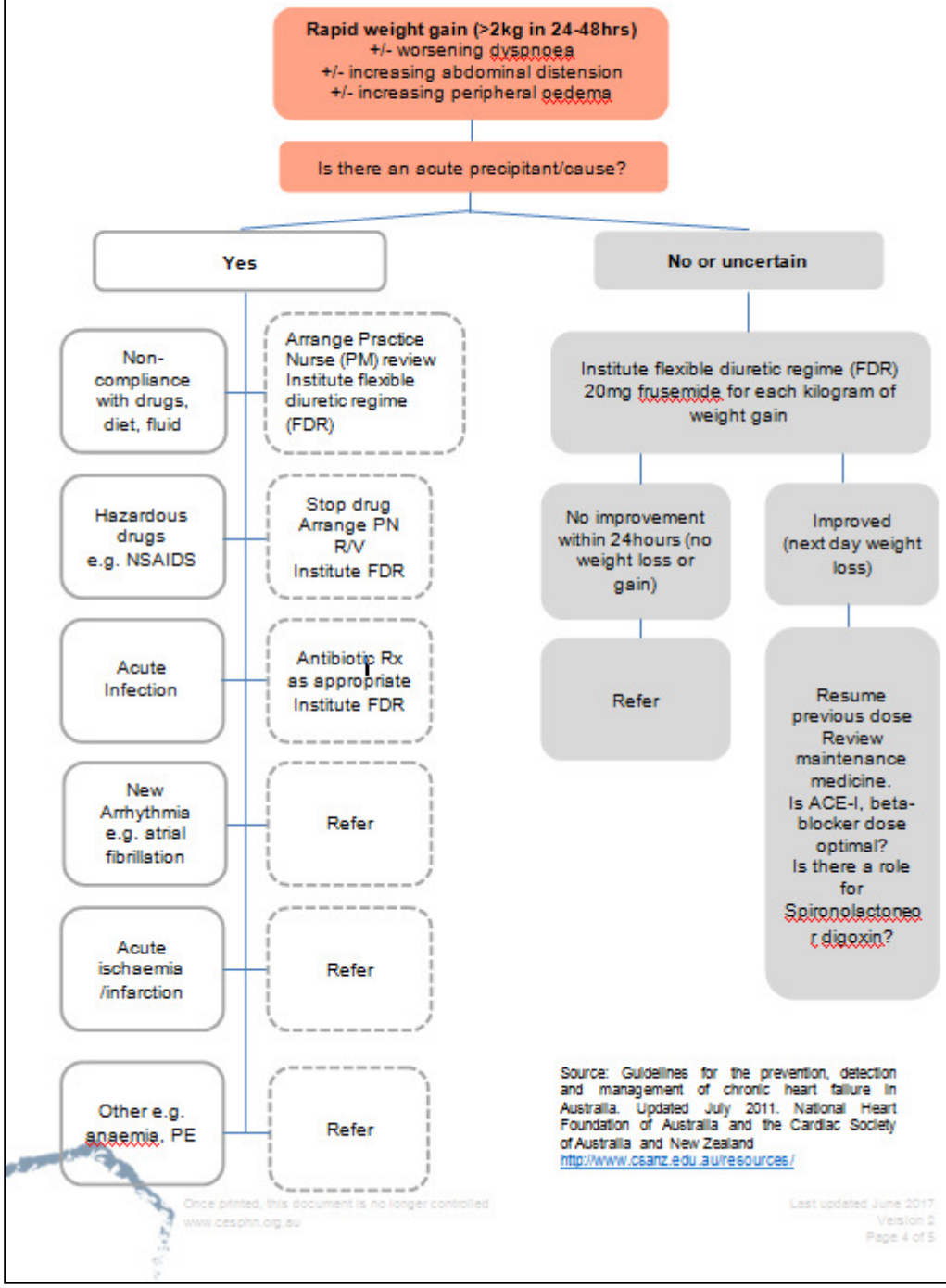
Non-Pharmacological Management

- Education on HF signs & symptoms
- Diet - salt restriction and decrease fat intake
- Fluid restriction (1200-1500ml)
- Alcohol - decrease or abstain
- Smoking cessation
- Daily weigh
- Exercise
- Vaccination - influenza & pneumococcal
- Report symptoms
- Heart Failure Action Plan

Heart Failure Action Plan

Every Day	• Weigh yourself & keep track of your weight • Restrict your fluid & salt intake as indicated by your doctor • Take your medications as prescribed • Be physically active • Call for medical assistance when needed (as listed below)
Call your doctor or heart failure nurse as soon as possible if:	• You gain or lose more than 2kgs over 2 days • Worsening shortness of breath • Your heart is beating very quickly • Become lightheaded or dizzy • Worsening angina • Increased swelling of your ankles or abdomen • Coughing at night • You wake up at night short of breath
Call an ambulance (000) if:	• Severe chest pains that do not respond to angina medicine within 10 minutes of onset • Have severe shortness of breath

Management of clinical deterioration in Heart Failure

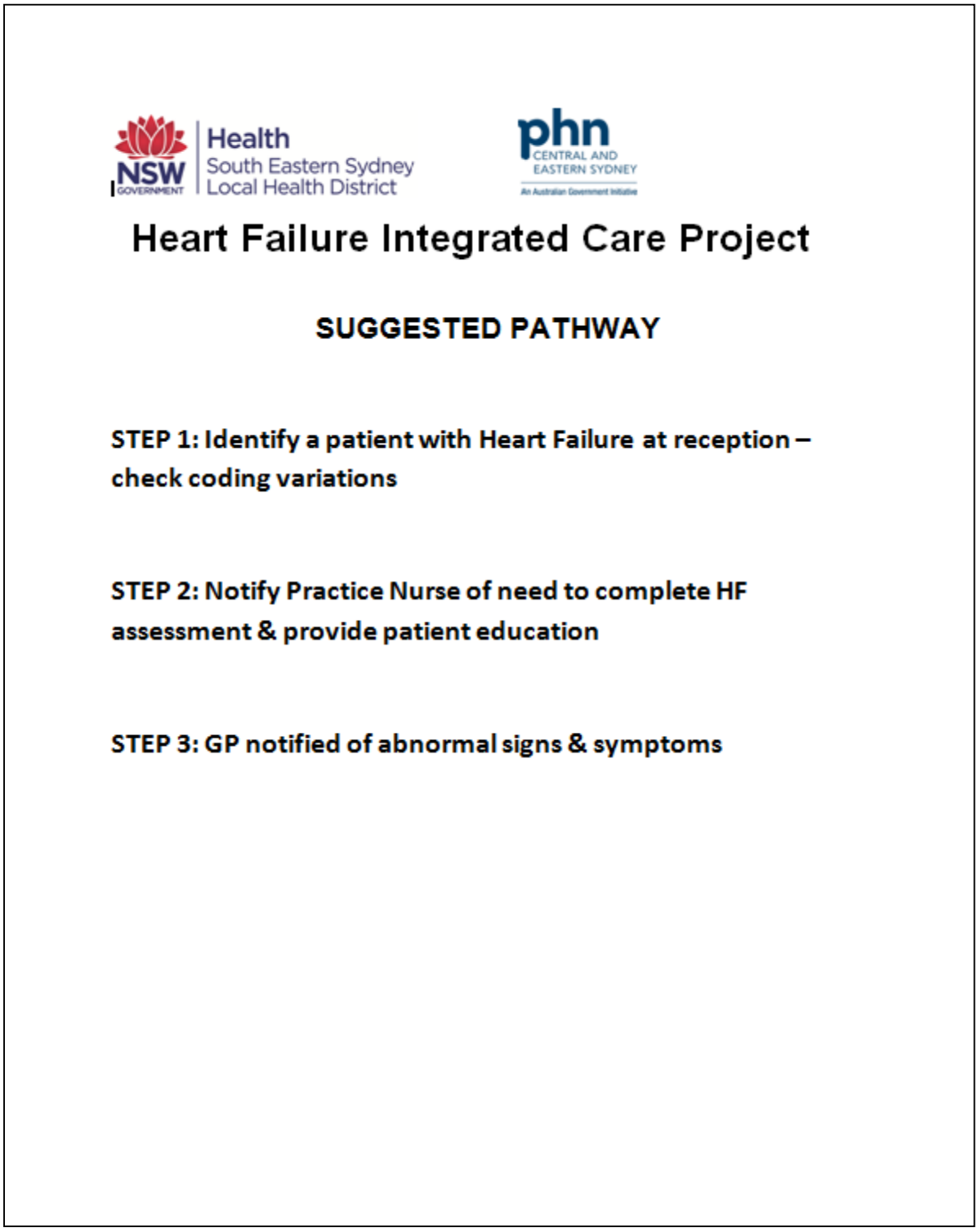


Source: Guidelines for the prevention, detection and management of chronic heart failure in Australia. Updated July 2011. National Heart Foundation of Australia and the Cardiac Society of Australia and New Zealand
http://www.csanz.edu.au/resources/

Heart Failure - Current Guidelines

- 2016 ESC Guidelines for the diagnosis and treatment of acute and chronic heart failure European Heart Journal (2016) 37, 2129–2200
  DOI: 10.1093/eurheartj/ehw128
- 2013 ACCF/AHA Guideline for the Management of Heart Failure: A Report of the American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines Circulation. 2013;128:e240-e327.
  DOI: 10.1161/CIR.0b013e31829e8776
- 2016 ACC/AHA/HFSA Focused Update on New Pharmacological Therapy for Heart Failure: An Update of the 2013 ACCF/AHA Guideline for the Management of Heart Failure. J Am Coll Cardiol. 2016;():. (Published online ahead of print)
  DOI:10.1016/j.jacc.2016.05.011
- Guidelines for the prevention, detection and management of chronic heart failure in Australia Updated July 2011National Heart Foundation of Australia and the Cardiac Society of Australia and New Zealand http://www.csanz.edu.au/resources/

Appendix 10. HFICP Suggested General Practice Pathway

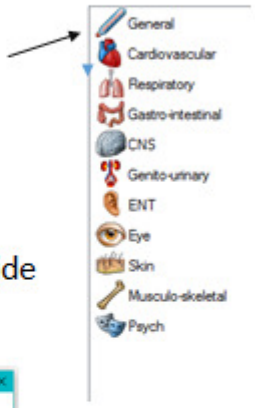


Appendix 11. Upload documents to Best Practice

Heart Failure Integrated Care Project

USING THE DOCUMENTS ON

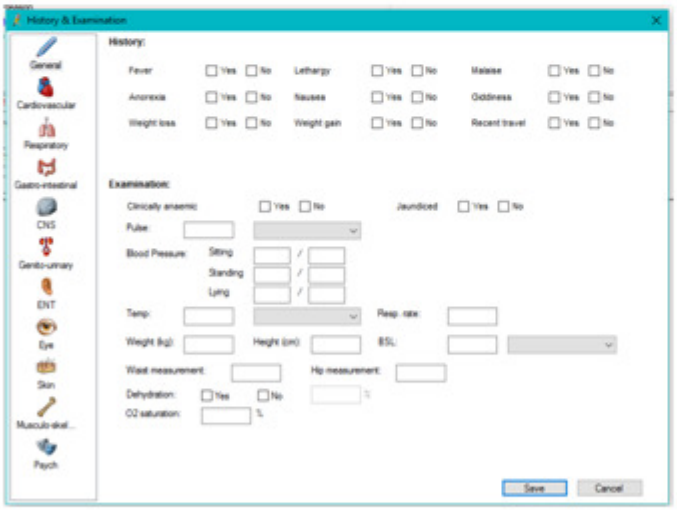
"BEST PRACTICE" - CLINICAL MANAGEMENT SYSTEM



In 'TODAY'S NOTES':

STEP 1:

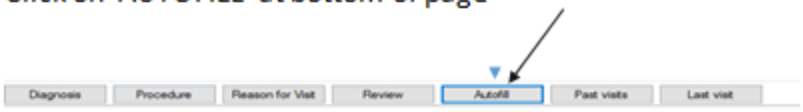
- For History & Examination:
  - Click on 'GENERAL' on Right hand side



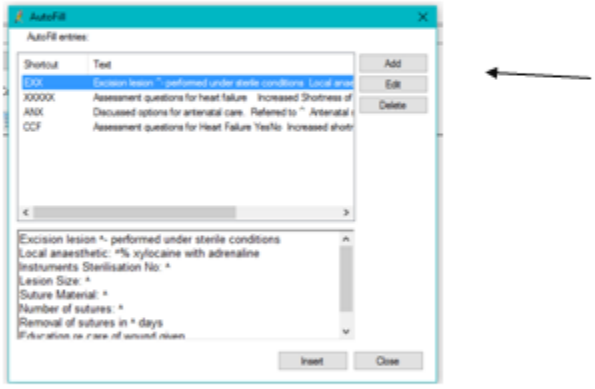
Step 3: For extra Heart Failure content

Assessment questions for Heart Failure				Yes	No
Increased shortness of breath when walking or other activities					
Waking at night short of breath					
Cough					
Feeling tired or lacking energy					
Weight gain					
Swelling of ankles, legs or stomach					
Loss of appetite or nausea					
Increased palpitations					
Chest discomfort					
Self-care check					
⊏ Daily Weight	⊏ Take medications	⊏ Fluid restriction	⊏ Salt restriction	⊏ Daily exercise	

- Click on 'AUTOFILL' at bottom of page



- Click on 'ADD' to create Shortcut



Appendix 12. Upload documents to Medical Director

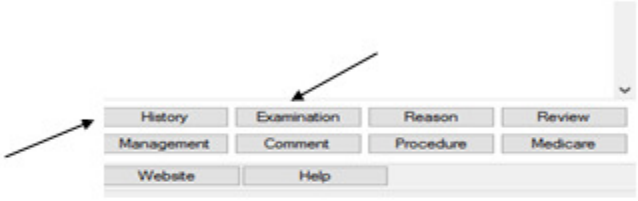
Heart Failure Integrated Care Project

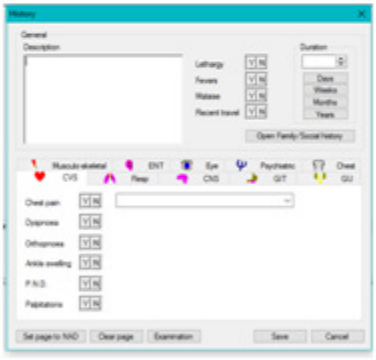
USING THE DOCUMENTS ON

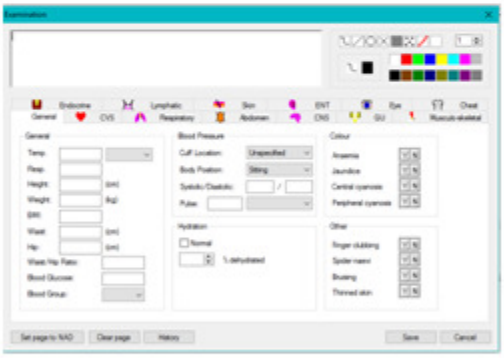
"MEDICAL DIRECTOR" - CLINICAL MANAGEMENT SYSTEM

STEP 1:

- For 'HISTORY' & 'EXAMINATION':
  - Click on these icons on lower left of screen



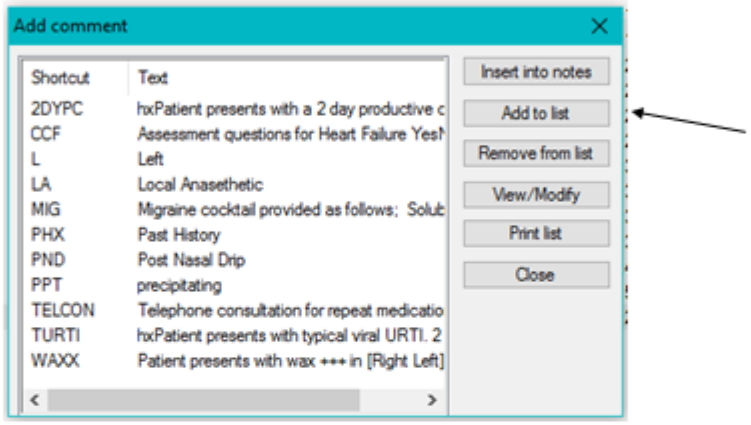




Note: Oxygen saturation is in 'RESPIRATORY EXAMINATION'

Step 3: For extra Heart Failure content

- Click on 'EDIT' at top of page
- Click on 'ADD'



- Click on 'ADD TO LIST' to create Shortcut

Assessment questions for Heart Failure - TICK if present/given

Increased shortness of breath when walking or other activities
Waking at night short of breath
Cough
Feeling tired or lacking energy
Weight gain
Swelling of ankles, legs or stomach
Loss of appetite or nausea
Increased palpitations
Chest discomfort

Self-care check

Daily Weight Take medications Fluid restriction Salt restriction Daily exercise

Appendix 13. APNA Poster Presentation

BRIDGING THE GAP FOR HEART FAILURE

Primary Care & **Hospital**

Sheila Maloney[1], Tahnee Herring[1], Barbara Hawkshaw[2], Victar Hsieh[3], Glenn Paull[3], Janet Newton[3], Jane Fisher[2]

1. General Practice, NSW; 2. Central and Eastern Sydney PHN; 3. St.George Hospital SESLHD, Kogarah, NSW, Australia.

Background

Heart failure (HF) is a major public health problem associated with poor clinical outcomes and escalating health care costs estimated to be $1 billion per year.

High rates of morbidity, mortality and frequent hospitalisation requires an integrated chronic disease management (CDM) model involving hospital and primary care clinicians.

Acknowledgement of being a shared patient group between hospital and primary care clinicians with limited collaboration in supporting self care.

Opportunity for collaboration between St George Hospital, CESPHN, Novartis, and interested General Practices who employ Practice Nurses, within the St George & Sutherland regions, Sydney.

Objectives

- To develop an integrated Heart Failure Disease Management Program (HF DMP) model of care for primary care and hospital based services
- Enhance GP & Practice Nurse knowledge and confidence of HF management
- To explore the capacity of Practice Nurses to value add to General Practice by monitoring and supporting patients with HF
- Improve communication between primary health and hospital services

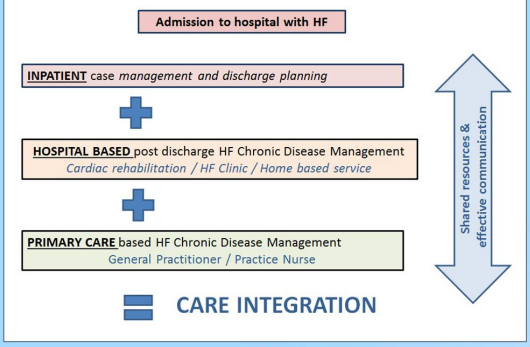
Method

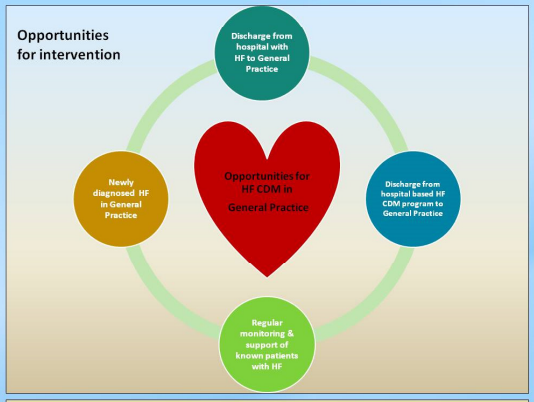
- Six General Practices partnered with hospital based HF clinicians over a 12 month period to develop a *primary care* HF DMP, exploring both barriers and opportunities
- Clinical Assessment and patient self-care support resources were developed, co-designed by hospital and primary care based clinicians, and able to be incorporated into existing electronic patient management systems and integrated within usual General Practice workflow
- Clinical support was provided through hospital based Clinical Nurse Consultant and Cardiologist

Outcomes

- A *primary care* HF DMP was developed to support patients and General Practice clinicians in primary care
- Barriers to implementation included: busy workflow with time limited appointments; identification of patients with HF; availability of resources to support self-care; limited scope of practice and professional support for practice nurses and limited and inconsistent communication paths between primary health and hospital based clinicians
- Solutions focused on standardising disease coding, incorporating CHF assessment and monitoring templates within electronic patient management systems, development of self-care support resources; identifying opportunities to expand the practice nurse role and improving communication pathways between hospital and General Practice clinicians

Integrated Chronic Care Model





Conclusion & Recommendations

- Partnerships between hospital and primary care based clinicians can inform the development of a practice nurse supported *primary care* based HF CDM: *sharing resources, improving clinical management and supporting care integration*
- Improved communication processes between Primary Care Clinicians and hospital based Clinical Nurse Consultants can be supported through a hospital Clinical Nurse Consultant directory on PHN website
- Recognition of the importance of standardising disease coding among General Practice clinicians to assist in identifying target populations
- This model is both sustainable and readily transferable to other chronic disease conditions
- Importance of exploring further opportunities to expand the role of the practice nurse in chronic disease management

Acknowledgements: *Christine Day, Nurse Manager Medicine, SESLHD; Janet Bell, A/Service Line Manager, Medicine 1,2 & Cancer Services, SESLHD ; Thomas Chapman, A/Chronic Care Manager, SESLHD; Paul Holdsworth, Consumer Representative, SESLHD; Martin Haigh, Business Franchise Director, Novartis Pharmaceuticals Pty Ltd*

NSW Government Health South Eastern Sydney Local Health District

phn

NOVARTIS

Appendix 14. CSANZ Abstract

Integrating Care: *developing a primary care Chronic Heart Failure Disease Management Program - a Tertiary Hospital / General Practice partnership*

Background

Patients with chronic heart failure (CHF) require regular assessment, monitoring and self-care support. Clinical care is predominantly delivered by General Practitioners (GP), cardiologists, and *hospital and community based* CHF disease management programs (DMP) which although effective, reach only 20% of patients discharged from hospital. To improve accessibility, there have been calls for the development of *primary care* based CHF DMP. In support of this proposal, there is evidence to suggest primary care practice nurses (PN) are well placed to contribute to the clinical management of stable chronic disease.

Aim

To develop a *primary care* based CHF DMP through a joint partnership between hospital and General Practice clinicians.

Method

GP's and PN's from six (6) General Practices partnered with tertiary hospital based specialist CHF clinicians over a 12 month period to develop a *primary care* based CHF DMP.

Results

Opportunities and barriers were identified and solutions implemented to inform a *primary care* based CHF DMP. Barriers included identification of CHF patients, limited resources to support self-care and limited scope of practice and professional support for practice nurses. Opportunities and solutions included standardising disease coding, incorporating an assessment and monitoring template within electronic patient management systems, identifying opportunities to expand the role of the practice nurse, development of self-care support resources and improved communication with hospital based CHF DMP's.

Conclusion

Partnerships between hospital and primary care based clinicians can inform the development of a practice nurse supported *primary care* based CHF CDM to improve clinical management and support care integration.