

Clinical Excellence Division

Clinical Standard for Heart Failure Support Services

Queensland Health





Standard for Heart Failure Support Services

Endorsed by the Queensland Heart Failure Steering Committee of the Statewide Cardiac Clinical Network

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Objective

Evidence shows that there are benefits of multi-disciplinary care to support patients recently hospitalised with heart failure; those at high risk of readmission (including patients with active comorbidities and symptomatic heart failure); the elderly; and patients with inadequate social and economic support.^[1] The objective of this standard for Heart Failure Support Services (HFSS) is to ensure that all patients with symptomatic heart failure have access to appropriate specialist medical review and management, as well as coordinated nursing and allied health care.

Specialist medical review and management

Patients admitted to hospital with chronic heart failure should be referred to a cardiologist or a general physician and other specialists (if indicated) for review and advice on management to improve patient outcomes. Patients with heart failure in the community should also be considered for cardiology and specialist referral to support optimal management.

Heart Failure Support Service (HFSS) model of care

HFSS are multidisciplinary services that provide and support individually tailored programs that include: disease management, case management, self-management and rehabilitation.

A HFSS is usually coordinated by a nurse with expertise in heart failure management. Components are outlined in Table 1. Clinical follow-up by the multidisciplinary team can be either by telephone, home visit, nurse-led clinic, group rehabilitation and education, telehealth or a combination of methods.

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- Comprehensive education and counselling individualised to patient needs
 - Promotion of self-care, including self-adjustment of diuretic therapy in appropriate patients (or with family member/caregiver assistance)
 - Exercise training
 - Emphasis on behavioural strategies to increase adherence
 - Vigilant follow-up after hospital discharge or after period of instability
 - Optimisation of medical therapy
 - Increased access to providers
 - Early attention to signs and symptoms of fluid overload
 - Assistance with social and financial concerns
 - Advance care planning
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(Adapted from the HFSA's 2010 Comprehensive Heart Failure Practice Guideline: Section 8 Disease management, advance directives, and end-of-life care in heart failure [2])

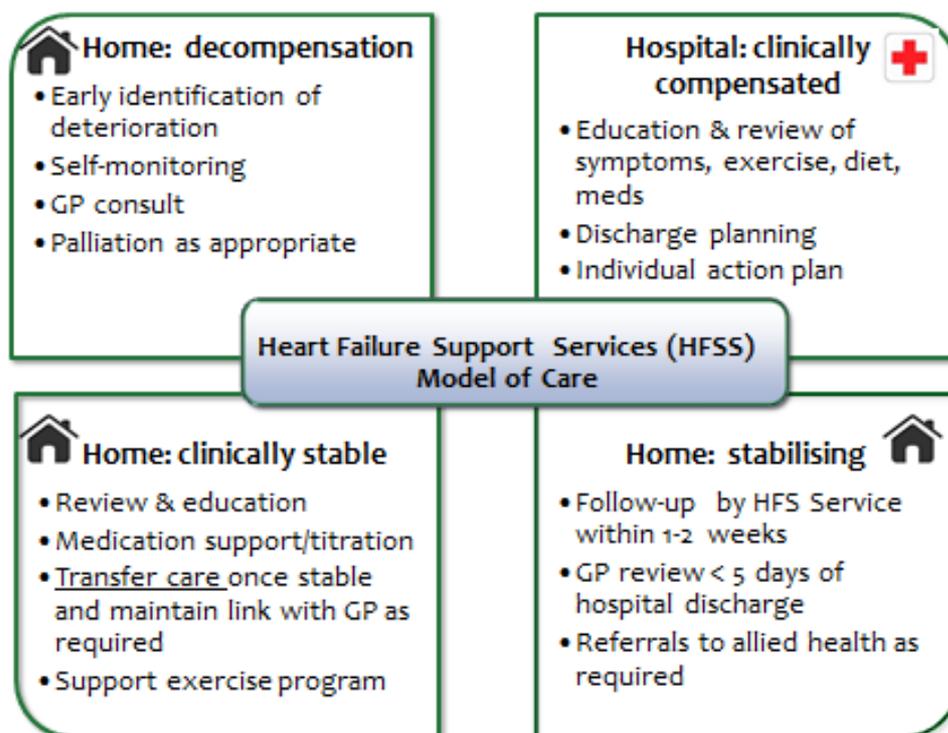
Table 1: Recommended components of a Heart Failure Support Service



Timing of Support: from hospital to home

The HFSS aims to extend the time that patients are at home and clinically stable, prolong life, and prevent avoidable readmissions. Inpatient management involves discharge planning and brief education and support. As heart failure can rapidly worsen, and patients are particularly at risk of decompensation in the first weeks post discharge, it is important that referrals are followed up quickly and waiting lists are avoided. The patient journey with chronic heart failure as outlined in the Figure 1 shows that majority of services are required while a person is at home.

Figure 1: Heart Failure Support Services multidisciplinary model of care





Referrals and inclusion criteria for HFSS

Patients may be referred to a HFSS from outpatient or inpatient settings and GPs (depending on service capacity). Services should automatically accept referrals from any other Heart Failure or Chronic Disease service in Queensland using the [QCOR referral wizard](#) (available only within Queensland Health)

All persons over the age of 16 years with symptoms of heart failure, regardless of aetiology, should be considered for enrolment into a HFSS if there is a confirmed diagnosis of Heart Failure with reduced Ejection Fraction (HFrEF) including patients post infarct; Heart Failure with preserved Ejection Fraction (HFpEF); heart failure with associated valvular disease or isolated right heart failure (e.g. cor pulmonale)

Assessment and management

Comprehensive assessment of the patient will include:

- Symptom control
- Medication management
- Self-management and lifestyle
- Cardiovascular risk factors
- Functional activity
- Psychosocial concerns
- Exercise capacity
- Nutritional status
- NYHA functional status
- Social supports
- Comorbidities management

Managing risk of decompensation

The risk of decompensated heart failure and readmission to hospital will determine the timing of follow-up as well as the intensity and type of intervention. The identification of risk and suggested management is outlined in Table 2. Whilst local needs and resources may differ, services should be provided in a manner that best suits the needs of the patient.



Risk level ¹	Factors determining risk	Management of risk
Low risk 	<ul style="list-style-type: none"> • Class I - II NYHA² symptoms of heart failure • Demonstrates understanding of condition • Ability to follow medication and dietary guidelines • No admissions for decompensated heart failure within last 6 months • Adequate social support • Regular contact with GP 	<ul style="list-style-type: none"> • Follow up within 14 days post discharge or referral • Specialist medical outpatient clinic 4-6 weeks (if warranted) and ongoing as needed • Physical, social and emotional assessment • Medication review and medication titration • Education re self-management strategies • Exercise prescription for home or group program
High risk 	<ul style="list-style-type: none"> • Class II-IV NYHA² • Poor understanding of condition • Culturally and linguistically diverse background • Poor cognitive function • Admissions with decompensated heart failure in previous 6 months • Socially isolated • Multiple co-morbidities and risk factors • Poly pharmacy • Poor adherence with medication or diet • Frailty 	<ul style="list-style-type: none"> • Follow-up within the first week (or sooner if patient is unstable) following hospital discharge or outpatient referral • Provide or refer to a structured exercise and education program or home based exercise program • Ongoing education on symptom control particularly fluid management • Medication management support and up titration as appropriate and support for flexible diuretic regimen³ • Completion of Heart Failure medication titration plan³ as appropriate • Ongoing assessment and referral • Communication to GP and other referrers • Referral to palliative care team if appropriate • Subsequent follow-up to be arranged to meet the patient's needs.

1. Patient risk level status may rapidly change
2. New York Heart Association (NYHA) Classification of heart failure. It places patients in one of four categories based on how much they are limited during physical activity.
3. Heart Failure Medication plan available from:
https://www.health.qld.gov.au/heart_failure/asp/med_titration

Table 2: Managing the risk of decompensated heart failure



Discharge criteria

HFSS should manage patient flow to ensure that there is capacity to care for new patients. Discharge from HFSS service will depend on availability of local health providers such as GPs and domiciliary care. Patients who have frequent episodes of destabilization after discharge from a program should be referred again for support.

Prior to HFSS discharge, all patients (or their family or care givers) should, at a minimum:

- Be able to self-manage, recognise worsening symptoms, have an action plan and know how to use it (or have a carer and/or support services organised if required)
- Know how to exercise safely according to his or her condition and participate in life-long activity;
- Be in the care of a GP (and specialist outpatient or palliative care if required)
- Have reached optimal tolerated doses of heart failure medications (if HFrEF) and have a medication plan provided to GP. (Titration by GP still requires involvement by HFSS until target is achieved.)

Some patients may also need to be considered for:

- Electrophysiology review where the ejection fraction is $<35\%$, the patient is on maximum medication therapy for several months, and it is deemed medically appropriate
- Cardiac genetic review for patients with hypertrophic or familial cardiomyopathy
- Early specialist heart failure review (for advanced therapies and transplantation suitability) for patients who deteriorate or do not tolerate medication uptitration despite best efforts



Benchmarking and outcomes

State-wide coordination or data collection and reporting

HFSS multidisciplinary teams should be assisted to collect relevant data relating to referrals received. Data should be used by clinicians as part of state-wide and local quality assurance initiatives to identify gaps in service delivery, improve patient care and facilitate benchmarking between services.

All services should register new patients into the Heart Failure state-wide data base supported by the Queensland Cardiac Outcome Registry[3].

Clinical indicators may change to focus on areas requiring improvement. Current indicators are listed in the Table 3. Readmission rates, average length of stay, and mortality rates should also be reported.

Clinical performance indicators

1. Timely follow-up by a HF Support Service for inpatient and outpatient referrals (all patients)
2. Assessment of left ventricular function within the last 2 years (all patients)

Medication management of patients with a diagnosis

Prescription at hospital discharge and/or at the time of first clinical review:

3. Angiotensin-converting-enzyme inhibitor (ACEI) or angiotensin II receptor blockers (ARB) or Angiotensin Receptor-Nepriylsin Inhibitors (ARNI) (HFrEF only)
4. Guideline recommended beta blockers (Bisoprolol, Carvedilol, Metoprolol sustained release, or Nebivolol) (HFrEF only)
5. Mineralocorticoid receptor antagonist (MRA) (HFrEF only)
6. Beta blocker review and titration status at 6 months post referral to a HF Support Service (HFrEF only)
7. Sodium–glucose co-transporter-2 inhibitors (SGLT2i) (HFpEF and HFrEF)

Table 3: Clinical performance indicators



Workforce levels, skill mix, and roles

Patients require access to a multidisciplinary team of trained, experienced, health professionals who routinely see a critical mass of patients with heart failure. The heart failure nurse provides case-management in close liaison with medical specialists and GPs. In rural and small centres the nurse may be the sole case manager accessing allied health staff by referral only.

Staffing of Heart Failure Support Services

Workload recommendations are based on the following assumptions:

- Manageable workloads and an appropriate skill mix of the clinical team leads to better health outcomes for patients such as avoiding rehospitalisation and improving quality of life.
- Patients receive support including inpatient education and discharge coordination, post discharge care, and support over time during different phases of disease progression.
- Continuity of care is best achieved by the use of designated senior nurse team leaders and specialist allied health staff (physiotherapists, accredited exercise physiologists, pharmacists, dietitians, occupational therapists, psychologists, and social workers). Rotational posts should be used cautiously as they cannot contribute to continuity of care and have a large training requirement.
- Support services are a 5 day week-day service (24 hour care is provided by referral to other health care providers)
- The duration of care is flexible and may last for 6 to 12 months
- NB. It is important that adequate cover is available for all types of leave including professional development.

Staff to patient ratios and caseload hours recommendations

While staff to patient ratios is commonly used for inpatient settings, ratios are difficult to calculate in a chronic disease management model of care where most of the support occurs when the patient is living in the community. The time spent in direct patient care is more commonly used to estimate case-load management in non-acute care.[4] However, some estimate of staff to patient ratios is useful to ensure that teams are appropriately resourced to meet patient needs. To enable benchmarking, training, and high standards of care a Statewide Coordinator and an administrative officer is recommended at 1.0FTE and 0.5 FTE respectively.



Table 4 provides recommendations on staff to patient ratios and time spent in direct patient care time. Ratios were derived using Delphi techniques to achieve consensus between 24 heart failure services in Queensland about manageable weekly caseload. Recommendations for caseload hours were extrapolated from a review of the rehabilitation, chronic disease and workforce literature and an analysis of time spent in direct patient care [3-13].

Staff for 50-100 actively managed patients	FTE ¹	Average time in direct patient care ²
Medical sponsor for team	N/A	N/A
Nurses	2.0 - 3.0	50% (45% for team leader)
Allied health³:	Per discipline:	
Physiotherapist/exercise physiologist, Pharmacist	0.8 - 1.0	50 to 60%
Dietitian, occupational therapist, social worker, clinical psychologist	0.4 - 0.6	
Administrative officer	0.4 - 0.6	N/A

¹Full time equivalent
²*Direct patient care* includes: outpatient clinics, inpatient consultations, groups, home visits, telephone support and telehealth. *Indirect patient care* includes: travel time, reporting, or case-conferencing; liaison and coordination between different health care providers; and reconciliation of medications.
³ FTE is lower than nursing as allied health staff see a proportion of relevant patients

NB. Direct care hours are extrapolated from the Queensland Nurses and Midwifery Union's *Ratios Save Lives Phase 2* (2017) recommendations for Community Health

Table 4: Recommended workloads for Heart Failure Support Services

Clinical roles

Medical Specialist

Each HFSS requires a medical sponsor (a cardiologist or general physician) with an interest in heart failure. The role not only provides patient care but also mentors the team in regards to medical management. Where medical mentorship is not available locally (as in some rural and remote areas) such support should be provided by formalising links with another centre that can provide remote support.



Nursing

An ideal standard for nurses in a HFSS is to ensure that patients receive all components of care (as outlined in Table 1) from relevant health professionals with consideration of comorbidities.

The heart failure service coordinator is usually a nurse. Due to the level of expertise and accountability in reporting outcomes at least one nurse on the team should be a Clinical Nurse Consultant (CNC) or Nurse Practitioner (NP) with expertise in heart failure management and chronic disease, or the capacity to rapidly acquire these skills.

Clinical nurse consultant (CNC)

A HF Clinical Nurse Consultant (CNC) is responsible for the overall clinical coordination, planning, implementation and evaluation of the HFS. The HF CNC role includes a clinical specialist component, delivering HF patient education, and conducting post-discharge follow-up.

Clinical Nurse CN (CN)

The CN role is primarily involved with patient related activities under the direction of the CNC or Nurse Practitioner

Nurse Practitioner (NP)

HF Nurse Practitioner is responsible for nursing clinical leadership and providing an advanced level of clinical care including assessment, ordering of diagnostic investigations, medication prescription and titration and referral to other health professionals for clients with heart failure. Where the position is the sole nursing position the position is also responsible for planning and evaluation.

Allied Health

Allied health staff may be part of a team or accessed by referral. While it is recognised that not all centres will be able to maintain allied health services specifically for a HFSS, the strongest evidence for achieving optimal outcomes is based on specialised HF multidisciplinary care.

Pharmacist

Pharmacists with expertise in heart failure management are responsible for the optimisation of medication management. This includes undertaking medication histories, medication reviews, assessment and resolution of medication related problems, supporting medication titration in accordance with evidence based guidelines, providing patient and carer education, supporting medication adherence, and liaison with community health providers to promote continuity of health care.

Physiotherapist/ Accredited Exercise Physiologist

Physiotherapists or accredited exercise physiologists are responsible for: comprehensive assessment, interpretation of relevant investigations, evaluation of exercise capacity, consideration of the patient's complex needs and comorbidities, and prescribing individual and group exercise programs in accordance with evidence-based guideline, and carer education in regards to physical activity and exercise specific to the individual's needs.



Dietitian

Assessment includes a diet history of client; calculation of estimated dietary intake; comparison of actual dietary intake to recommended dietary intake and screening for malnutrition; prescription of specific diets based on the identified needs of the individual and education. Patients with chronic heart failure and an malnutrition score of greater than 2 are a priority for dietetic intervention.^[14]

Occupational Therapist

Occupational therapists assist independence for patients with heart failure through personal goal setting; energy conservation and work simplification training; and home modifications for the purpose of maximising function, safety and falls prevention.

Social Worker (SW)

Social workers may provide advice and assistance with practical issues and concerns; information and assistance with financial and legal matters; end of life planning; and use intervention strategies such as stress management and relaxation, counselling and support

Psychologist

Psychologists provide support for patients with heart failure with psychological distress such as depression and anxiety.

Clinical administration support

Administrative support may include telephone reception, scheduling of patients, data entry, clinical letters and minute taking.

Statewide Coordination of Heart Failure Support Services

Manager

Statewide HFSS manager coordinates multidisciplinary heart failure services of nurses and allied health staff across Queensland to ensure high standards of practice and further service development. The purpose is to support high standards of care by developing and maintaining systems of evaluation; service improvement initiatives; workforce training and education; service planning and development.

State-wide administration support officer

The role of the state-wide administration support officer is to: manage events and training courses; support and maintain local websites; and collect and disseminate information to all multidisciplinary team members and including medical staff.



Appendix 1: Tools for assessment and management

Qld Heart Failure Services

<https://www.health.qld.gov.au/clinical-practice/referrals/statewide-specialist-services/heart-failure-services>

This site contains the clinical standard, and Queensland heart failure publications for patients for heart failure patients wishing to know more about exercise, medications and the role of carers.

HEART Online

<http://www.heartonline.org.au> provides clinicians with assessment and management tools for use with patient with chronic heart failure. Included are some pertinent resources that can also be downloaded to assist in care.

Weight and symptom diary

http://www.heartonline.org.au/media/DRL/Weight_and_symptom_diary.pdf

Fluid management algorithm

http://www.heartonline.org.au/media/DRL/Fluid_management_algorithm_in_heart_failure.pdf

End stage heart failure check list

http://www.heartonline.org.au/media/DRL/Endstage_heart_failure_care_plan_checklist.pdf

Exercise assessment form

http://www.heartonline.org.au/media/DRL/Exercise_assessment_form.pdf

Heart failure medication optimisation plan

https://www.health.qld.gov.au/_data/assets/pdf_file/0018/428121/Medn_Titration.pdf



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