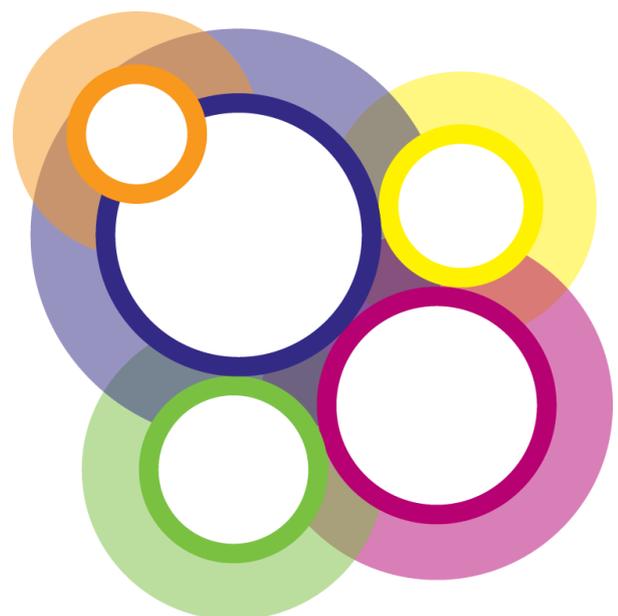# Care Bundle

Adult patients with stable Heart Failure

North of England Commissioning Support
Medicines Optimisation on behalf of Cumbria CCG

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1. Introduction

1.1. What is a care bundle?

A care bundle is a set of interventions that, when used together, significantly improve patient outcomes. The measures chosen reflect best practice and are based on NICE quality standards or other national guidance. Care bundles have been used extensively and successfully in Secondary Care, their use in Primary Care is more recent. This care bundle is based on the work of Healthcare Improvement Scotland and the Scottish Patient Safety Programme in Primary Care.

Reliability in health care is a failure-free operation over time. This equates to ensuring patients receive all the evidence-based care they are entitled to receive.

A care bundle is a structured way of improving processes of care to deliver enhanced patient safety and clinical outcomes. In relation to care bundles, this means ensuring that patients receive optimum care at every contact. The process for achieving reliability is to implement this set of measures (a care bundle). The key measure in a care bundle is the score which measures the level of compliance with all measures for all patients.

The care bundle data collection tool is a way of sampling whether optimum care is being delivered by applying the bundle to a sample of patients. This approach is therefore very different from traditional auditing approaches that are designed to identify whether individual measures are being implemented.

1.2. What makes up a care bundle?

- 4-5 measures
- All or nothing compliance
- Measurement done by a non-clinician if possible
- Spread over patient's journey
- Evidence based
- Creates teamwork and communication
- Multiple functions of care essential for desired outcome

1.2.1. How should a care bundle be used in practice?

A care bundle is a quality improvement tool which can be used in general practice to identify both where care is in line with best practice and where improvements are needed. Some are disease specific and some are medication specific. The latter may also be known as patient safety bundles if they relate to high risk medication.

Bringing about changes in practice is not easy. To be an effective tool the results of the care bundle measurements must be discussed by ALL members of the team

involved in the care of the patient. The practice team then need to take ownership of the issues identified and commit to changing the way care is provided, using tools such as the 'Plan Do Study Act' (PDSA) cycle.

Principles of successful measurement:

- The support of all members of the practice team should be obtained
- Data should be collected anonymously
- The results should be discussed by every member of the team
- The results should be used to plan and implement improvement initiatives
- Clinician support may be needed initially by the data collector until they are familiar with the measures.

1.3. Records

The care bundle is not a performance tool and so there is no requirement to report the measures achieved. The practice should keep a reflective log of improvements.

1.4. Resources

This care bundle has the following supporting resources:

- A word document data collection form
- An excel spreadsheet data collection form with a graphing function
- A reflective log template

Further information on Care Bundles and Improvement Models can be found at www.healthcareimprovementscotland.org/pspc.aspx

Further advice can be obtained from the Medicines Optimisation team, and specific queries about this care bundle can be directed to the author (details are on the front page).

2. Adult patients with Stable Heart Failure

2.1. Search Criteria

Please identify a random sample of up to 20 adult patients a month in your practice with a diagnosis of heart failure. Use the data collection form to record the answer to each measure and transfer this to the spreadsheet. This should be repeated over a period of time, and the results discussed by the clinical team at regular intervals. Use of the spreadsheet will enable changes in practice to be monitored and compliance with the care bundle to be measured.

2.2. Measures

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Measure	**Has the diagnosis been confirmed with an echocardiogram showing left ventricular systolic dysfunction?**
Rationale	People referred for specialist assessment including echocardiography, either because of suspected heart failure and previous myocardial infarction or suspected heart failure and high serum natriuretic peptide levels, are seen by a specialist and have an echocardiogram within 2 weeks of referral.
	People referred for specialist assessment including echocardiography because of suspected heart failure and intermediate serum natriuretic peptide levels are seen by a specialist and have an echocardiogram within 6 weeks of referral.
	The echocardiogram and electrocardiogram (ECG) are the most useful tests in patients with suspected HF. The echocardiogram provides immediate information on chamber volumes, ventricular systolic and diastolic function, wall thickness, and valve function. This information is crucial in determining appropriate treatment (e.g. an angiotensin converting enzyme (ACE) inhibitor and beta-blocker for systolic dysfunction or surgery for aortic stenosis).
Source	NICE Clinical Guideline CG108: Chronic heart failure: Management of chronic heart failure in adults in primary and secondary care. 2010. http://www.nice.org.uk/guidance/CG108
	NICE Quality Standard QS9 Chronic heart failure 2011. Statements 3 and 4. http://www.nice.org.uk/Guidance/QS9
	NICE Clinical knowledge summary: Heart failure – Chronic 2010 Clinical Knowledge Summaries: Advice

Measure	Is the patient on an ACE inhibitor prescribed at target dose?
Rationale	People with chronic heart failure due to left ventricular systolic dysfunction are offered ACE inhibitors (or angiotensin II receptor antagonists licensed for heart failure if there are intolerable side effects with ACE inhibitors) and beta-blockers licensed for heart failure, which are gradually increased up to the optimal tolerated or target dose with monitoring after each increase. This class of agent may halve mortality from heart failure in the year after admission, when used at target doses. **Target doses from the European Society Cardiology (ESC) HF Guidance 2012** <table><tr><td></td><td>Starting dose (mg)</td><td>Target dose (mg)</td></tr><tr><td colspan="3">**ACE inhibitor**</td></tr><tr><td>Captopril[a]</td><td>6.25 t.i.d.</td><td>50 t.i.d.</td></tr><tr><td>Enalapril</td><td>2.5 b.i.d.</td><td>10–20 b.i.d.</td></tr><tr><td>Lisinopril[b]</td><td>2.5–5.0 o.d.</td><td>20–35 o.d.</td></tr><tr><td>Ramipril</td><td>2.5 o.d.</td><td>5 b.i.d.</td></tr><tr><td>Trandolapril[a]</td><td>0.5 o.d.</td><td>4 o.d.</td></tr><tr><td colspan="3">**ARB**</td></tr><tr><td>Candesartan</td><td>4 or 8 o.d.</td><td>32 o.d.</td></tr><tr><td>Valsartan</td><td>40 b.i.d.</td><td>160 b.i.d.</td></tr><tr><td>Losartan[b,c]</td><td>50 o.d.</td><td>150 o.d.</td></tr></table>
Source	NICE Clinical Guideline CG108: Chronic heart Failure: Management of chronic heart failure in adults in primary and secondary care. 2010. http://www.nice.org.uk/guidance/CG108 NICE Quality Standard QS9 Chronic heart Failure 2011. Statement 7. http://www.nice.org.uk/Guidance/QS9 National Heart Failure Audit 2011: http://www.ucl.ac.uk/nicor/audits/heartfailure/documents/annualreports/hfannual10-11.pdf European Society Cardiology (ESC) HF Guidance 2012 http://www.escardio.org/Guidelines/Clinical-Practice-Guidelines/Acute-and-Chronic-Heart-Failure

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Measure	Is the patient on a Beta Blocker licensed for heart failure at target dose?
Rationale	People with chronic heart failure due to left ventricular systolic dysfunction are offered ACE inhibitors (or angiotensin II receptor antagonists licensed for heart failure if there are intolerable side effects with angiotensin-converting enzyme inhibitors) and beta-blockers licensed for heart failure, which are gradually increased up to the optimal tolerated or target dose with monitoring after each increase.

Target dose of a Beta Blocker is determined on an individual basis, based mainly on reduction of the pulse rate to optimum. Reducing heart rate, not increasing beta-blocker dose, improves survival in heart failure. For every heart rate reduction of 5 beats/min with B-blocker treatment, there is an 18% reduction in mortality risk. No significant relationship between all-cause mortality and B-blocker dosing was observed in high-dose B-blocker trials vs. low-dose B-blocker trials.

Target doses from the ESC HF Guidance 2012

Beta-blocker		
Bisoprolol	1.25 o.d.	10 o.d.
Carvedilol	3.125 b.i.d.	25–50 b.i.d.
Metoprolol succinate (CR/XL)	12.5/25 o.d.	200 o.d.
Nebivolol[c]	1.25 o.d.	10 o.d.

Source	NICE Clinical Guideline CG108: Chronic heart Failure: Management of chronic heart failure in adults in primary and secondary care. 2010. http://www.nice.org.uk/guidance/CG108
	NICE Quality Standard QS9 Chronic heart Failure 2011. Statement 7. http://www.nice.org.uk/Guidance/QS9
	Ann Intern Med 2009;150:784–94
	National Heart Failure Audit 2011:
	http://www.ucl.ac.uk/nicor/audits/heartfailure/documents/annualreports/hfannual10-11.pdf

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Measure	Has the patient had a clinical review (including medication review, renal function and NYHA functional status) within 6 months?
Rationale	People with stable chronic heart failure should receive a clinical assessment at least every 6 months, including a review of medication and measurement of renal function.
	Review should be completed by a GP or Nurse Specialist, and should include:
	- functional capacity (NYHA) - fluid status - cardiac rhythm (minimum of examining the pulse) - cognitive status - nutritional status - serum urea - electrolytes - creatinine - eGFR - Full Blood Count (FBC (anaemia))
	The clinical condition of a person with heart failure may fluctuate and repeated admission to hospital is common, particularly for patients with more severe heart

	failure. Monitoring of clinical status following discharge is necessary and will involve healthcare professionals in both primary and secondary care.
Source	NICE Clinical Guideline CG108: Chronic heart Failure: Management of chronic heart failure in adults in primary and secondary care. 2010. http://www.nice.org.uk/guidance/CG108 NICE Quality Standard QS9 Chronic heart Failure 2011. Statement 9. http://www.nice.org.uk/Guidance/QS9 Clinical Knowledge Summaries: Advice: http://cks.nice.org.uk/heart-failure-chronic#!scenariorecommendation:4

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Measure	**Has the patient participated in care planning to develop an individualised self-management plan?**
Rationale	People admitted to hospital because of heart failure have a personalised management plan that is shared with them, their carer(s) and their GP. Patient Centred Care • All patients should be offered a supervised group exercise based rehabilitation programme • They should have a face-to-face structured medication review at least every 6 months where all medication is reviewed by a GP, Nurse Specialist or a Practice Pharmacist. Changes, amendments and relevant comments should be recorded. • Lifestyle advice: Smoking, alcohol, fluid intake and exercise should be discussed • Patient education is a vital aspect of support. All patients should know how to manage their condition and when to seek help. Patients should be provided with written information to support their condition which should include 'Living with Heart Failure' by the BHF and the 'Heart Failure Checklist' Leaflet. **Specialist HF Team** Patients having problems with their management should be referred to the Specialist Heart Failure Nurse for additional support. Recommendations made should be considered, implemented and monitored.
Source	NICE Clinical Guideline CG108: Chronic heart Failure: Management of chronic heart failure in adults in primary and secondary care. 2010. http://www.nice.org.uk/guidance/CG108 NICE Quality Standard QS9 Chronic heart Failure 2011. Statement 10. http://www.nice.org.uk/Guidance/QS9 Clinical Knowledge Summaries: Advice British Heart Foundation: Living with Heart Failure http://www.bhf.org.uk/publications/view-publication.aspx?ps=1001228 DVD: http://www.bhf.org.uk/publications/view-publication.aspx?ps=1000023

Appendix One: Abbreviations

Abbreviation	Definitions
NICE	National Institute for Health and Care Excellence
SPC	Summary of Product Characteristics
NICE CG	NICE Clinical Guideline
NICE QS	NICE Quality Statement
ESC	European Society Cardiology