PRIMIS

The University of Nottingham
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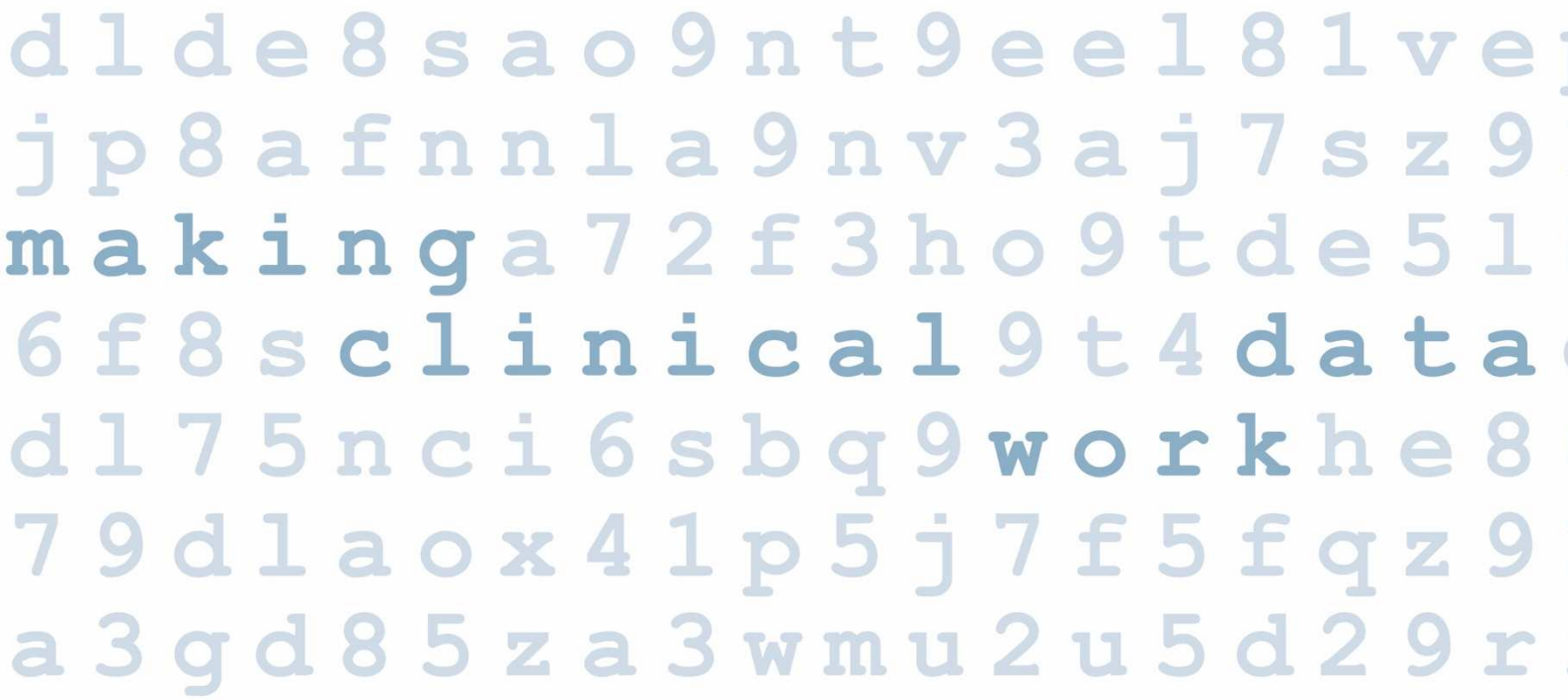
Quality Improvement Tool Instruction Guide GRASP-HF



The GRASP-HF quality improvement tool has been developed by PRIMIS and delivered in partnership with NHS England.

Prepared by PRIMIS
August 2017

Contents

Introduction

The GRASP-HF (Heart Failure with LVSD) tool forms part of the GRASP suite of quality improvement tools, developed by PRIMIS in partnership with NHS England. GRASP-AF, GRASP-COPD (Chronic Obstructive Pulmonary Disease) and GRASP-HF (Heart Failure) help practices achieve a systematic approach to the identification, diagnosis and optimal management of patients with these life-long conditions. Although they differ in aetiology and clinical presentation, they have certain similarities: all are under-diagnosed, their prevalence is forecast to increase as the population ages and evidence suggests that the use of effective interventions to delay the progression of these conditions and improve quality of life is currently sub-optimal.

The GRASP suite supports practices to:

- maintain complete and accurate disease registers
- compare patient care against national standards and guidelines
- maximise achievement of Quality and Outcomes Framework (QOF) points
- provide evidence of audit for inclusion in GP revalidation portfolios and CQC assessment
- work towards the goals outlined in domains one (Preventing people from dying prematurely) and two (Enhancing quality of life for people with long-term conditions) of the NHS Outcomes Framework[1]

The Health and Social Care Information Centre's *(now known as NHS Digital)* online dataset: Compendium of Population Health Indicators: Prevalence: Heart Failure[2] published in March 2013 shows 395,240 patients on Quality and Outcomes Framework (QOF) HF disease registers in England, which equates to a recorded prevalence for heart failure of 0.71%. Other sources indicate the probability that the number of patients should be as high as 900,000 with an actual prevalence more likely to be around 1.00%.

It should be understood that the core focus of this tool relates to heart failure due to left ventricular systolic dysfunction (LVSD) which accounts for approximately 60% of cases.

> **"HF represents the only major cardiovascular disease with increasing prevalence and is responsible for dramatic impairment of quality of life, carries a poor prognosis for patients and is very costly for the NHS to treat (second only to stroke)."**
>
> QOF guidance for GMS contract 2013/14: NHS England, BMA and NHS Employers (March 2013)

From a commissioning perspective, there are benefits in terms of cost reduction for the effective identification and management of patients with heart failure.

> **"[HF] accounts for 5% of all emergency hospital admissions and utilises 2% of all NHS hospital bed days."**
>
> **"Mean length of stay on first admission and readmission is 13 days"**
>
> National Heart Failure Audit 2011/12: British Society for Heart Failure (2013)

Data quality and the use of quality improvement tools

It must be emphasised that the data and information provided by this tool **should not** replace clinical decision making but instead should be used to help inform that decision.

No risk scoring system or reporting tool is considered perfectly accurate; they are entirely dependent upon certain factors being present and coded within the patient's electronic record. It is always a possibility that relevant items have been coded or alternative Read codes have been used that could be considered inaccurate or too generic.

As a result patients must be reviewed to confirm the accuracy of recorded information before management or treatment is decided upon.

Aim of the GRASP-HF quality improvement tool

The aim of GRASP-HF tool is twofold; to report upon the level of care being offered to patients with heart failure and to assist with case finding activity.

Practices can use the casefinder element to identify patients who may have heart failure but have not yet had the correct diagnosis recorded (potentially missing diagnosis codes for heart failure or LVSD, or both).

The care management part of the tool helps practices to identify areas where they can improve the quality of care provided to patients with known heart failure, improving not only the survival of their patients but also their quality of life.

The audit criteria are based upon the guidance within NICE Clinical Guideline 108 – Management of chronic heart failure in adults in primary and secondary care[3] and NICE - Chronic Heart Failure – Quality Standard 9 – June 2011[4].

The GRASP-HF tool enables practices to extract and analyse relevant clinical data from their clinical information system. GRASP-HF works across all clinical information systems and presents data in an easy to use format allowing practices to gain insight and knowledge into their management of patients with heart failure.

GRASP-HF helps practices by:

- Generating a list of patients with possible heart failure worthy of review to determine whether a diagnosis code is missing from the electronic record
- Allowing practices to achieve a more accurate prevalence rate for heart failure within their practice population
- Providing the facility to compare data with other practices both locally and nationally and the option to share aggregated data with their CCG
- Contributing to the delivery of the NHS Outcomes Framework and the Quality and Outcomes Framework (QOF)
- Identifying all patients who are coded as having heart failure due to LVSD and facilitating clinical audit against national guidance covering:
    - co-morbidities
    - smoking status
    - vaccinations
    - medications
    - investigations and management

Clinical audit notes and GP revalidation

This quality improvement tool has been designed to support GP revalidation. GPs can use the various displays within the CHART software to review clinical data at both patient and practice level, enabling them to maintain an overall picture of how they're managing patients at a population level but at the same time, look in detail at the care of individual patients:

- This is a retrospective clinical audit - looking back at clinical practice that has already taken place

- When conducting clinical audit for GP revalidation, GPs might choose to audit just their own clinical practice. Note that the GRASP-HF tool will report on all patients with a diagnosis heart failure due to LVSD or factors suggesting possible heart failure. Be aware therefore that data on the activity of others will also be gathered

- Involve fellow GPs in the clinical audit project. Several GPs who work together as a team can undertake a common audit. This is acceptable for the purpose of GP revalidation, as long as each GP can demonstrate that they have contributed fully to the clinical audit activity. Alternatively, seek their permission

- A clinical audit on the care of patients with heart failure due to LVSD (or possible heart failure for casefinder searches) matches the following criteria:

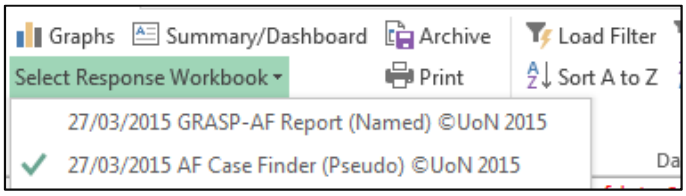
  - it is of concern for patients and has the potential to improve patient outcomes
  - it is important and is of interest to you and your colleagues
  - it is of clinical concern
  - it is financially important
  - it is of local or national importance
  - it is practically viable
  - there is new research evidence available on the topic
  - it is supported by good research

Running the GRASP-HF audit tool

Before running the searches you must ensure that CHART is installed and you are familiar with how to use the software. Detailed instructions on CHART installation and using the software can be found on the PRIMIS website: http://www.nottingham.ac.uk/primis/tools/chart/chart.aspx

There are two MIQUEST query sets contained within the GRASP-HF tool: one set for the casefinder and another for the management of patients with known heart failure.

Within the CHART software, practices can switch between the 'HF Casefinder' and the 'GRASP-HF Report by using the 'Select Response Workbook' function as shown in the example image below:



Both sets will only search on patients who are currently registered at the practice. It is recommended that the searches are run frequently (e.g. quarterly or six monthly) to monitor standards of care.

CHART Online

CHART Online is a secure web tool that helps practices improve performance through comparative data analysis. By using CHART Online, practices can explore and compare the quality of their own data with anonymised data from other practices, locally or nationally, through interactive graphs. This provides a powerful tool for reducing variation across localities and may be of interest to local commissioning groups to facilitate the planning of care pathways.

Pseudonymised patient level data on patients with known heart failure with LVSD can be uploaded securely from the GRASP-HF tool.

To do this, pseudonymised results must be loaded into CHART so that the upload button appears on the CHART toolbar. There is an inbuilt security function that prevents patient identifiable data being uploaded to CHART Online. Only aggregate data compiled from the pseudonymised responses can be transmitted.

Please note that data from the casefinder cannot be uploaded.

GRASP-HF casefinder

It is strongly recommended that practices use the casefinder before going on to examine the management of patients with known heart failure. Using the casefinder as a starting point will ensure that people with heart failure are diagnosed earlier, receive appropriate treatment and that the practice heart failure register and practice prevalence rate are as accurate as possible.

The GRASP-HF casefinder helps practices to answer the following questions:

- Do we have any patients with heart failure with LVSD who do not have the diagnosis coded in their electronic record?
- Are there any patients who would benefit from review for possible inclusion in the register and relevant treatment?
- How accurate is the practice prevalence rate for heart failure?

The casefinder summary sheet is designed to give an indication of patients who may benefit from having their records reviewed.

Casefinder output

The GRASP-HF casefinder provides the following views in CHART:

1. Summary sheet (classic view)
2. Datasheet
3. Pre-set graphs

Viewing your results

View 1 – CHART summary sheet (classic view)

CHART summary sheets provide a snapshot of all the relevant data recorded by the practice. For the GRASP-HF casefinder there is just one summary sheet view available (the classic view).

The focus of the overall GRASP-HF tool is on Heart Failure with LVSD, so the casefinder is designed to assist in looking for patients who should have this combination of recorded information.

The first part of the summary sheet provides useful preliminary information including an up-to-date count of the practice population (currently registered patients) and for reference, an up-to-date count of the number of patients with both heart failure and LVSD diagnoses.

GRASP - Heart Failure with LVSD Case Finder

Practice Population	8932
Patients with both Heart Failure and LVSD*	170

*This count is for information only. Patients with both Heart Failure and LVSD are not included in the casefinder query.

Patients with Heart Failure only	28
Patients with LVSD only	4

The next two rows summarise the number of patients that either have only heart failure recorded or only LVSD recorded and therefore should be targeted for review. A list of the patients identified in these two rows can be found using the pre-set filters available in the datasheet.

Practices should be looking at patients with HF recorded alone to see if they have had an echocardiogram showing LVSD. If no echocardiogram information has been captured electronically it may be useful to review the patient's full records to ascertain whether the necessary information is contained in any echocardiogram reports or indeed whether a patient may actually need a further echocardiogram.

It is important to ensure that patients with LVSD are recorded as such, as there is more supportive research evidence for therapeutic interventions in these cases.

It is likely that patients with LVSD alone will have a missing diagnosis code for heart failure, but this should be investigated as it is not always the case. They may also be missing a LVSD diagnostic code as this category includes patients with just a LVSD echocardiogram code. Codes will therefore need adding, but practices may like to give consideration as to why a code is missing and adjust their data recording processes accordingly.

What to note about this practice

- The apparent prevalence rate for heart failure is just under 2%
- There are 28 patients with only a heart failure diagnosis code recorded. One might expect a higher number of patients with heart failure but no LVSD
- There are four patients with only LVSD codes recorded
- Viewing the data sheet and applying pre-set filter one followed by pre-set filter two (see page 13 will identify the patients whose records need examining first

The next two sections of the summary sheet show the number of indicative terms (terms that might suggest the presence of heart failure) and supporting information (supplementary data items that will help GPs assess the likelihood of a missing diagnostic code) that have been recorded in the records of patients who do not have both heart failure and LVSD. The presence of these items in the datasheet is designed to signpost practices to groups of patients most likely to have a missing diagnosis code.

Indicative Terms	Number
LVSD Echocardiogram	0
Heart Failure Confirmation	0
History of Heart Failure	2
Suspected Heart Failure	0
NYHA Classification	4
HF Monitoring	7

Supporting Information	Number
Borg Score	0
MRC Score 4 or 5	14
Shortness of Breath	36
Oedema	244
Pulmonary Oedema	5
Echocardiogram	167
BNP Test Result >100	12

Suggested actions for practices

Using the datasheet and pre-set filters (see page 13):

- **Firstly, identify patients with a LVSD code but no heart failure code.** Use the columns containing indicative data items and supporting information items to identify and organise who are most likely to have a missing diagnosis code
- **Secondly, identify patients with a heart failure code who may be missing a LVSD code**. Filter patients with heart failure but no LVSD (discount those with right heart failure) then, as above, look across to the columns containing indicative data items and supporting information to identify the patients most likely to have a missing diagnosis code for LVSD.
- **Thirdly, identify patients potentially missing diagnostic codes for both heart failure and LVSD.** Filter out anyone with heart failure or LVSD diagnostic codes then look across at indicative data items and supporting information displayed. This will help the practice to identify patients with potentially a missing diagnosis.

Based on your findings, enter any missing diagnostic codes onto the electronic record or contact the patient to arrange any necessary tests.

The final two sections of the summary sheet show information about related heart conditions the patient may have and relevant medication the patient may be taking, which may also provide additional supporting information for case finding.

Co morbidities	Number
Atrial Fibrillation	101
IHD	217
Arrhythmia	120
Heart Valve Problems	41
Cardiomegaly	23
Cardiomyopathy	6

Medications	Number
Loop Diuretic	192
Metolazone	0
Aldosterone	17
Ivabradine	0
Digoxin	39
Beta Blockers licensed for heart failure	159

View 2 – Datasheet view

The datasheet (accessible via this icon from the toolbar) is the most important part of the casefinder set. It allows you to access patient level data and will assist with case finding activity by helping you to identify patients with multiple factors and potentially missing diagnostic codes.

When preparing the queries you can opt to run a pseudonymised set (as shown below with reference number) or a patient identifiable set that will return named patient information.

Reference	Age	Sex	Latest HF Monitoring Term	Latest HF Monitoring Date	Echocardiogram Code	Echocardiogram Date	Normal Ejection Fraction Date	BNP Test Date	BNP Test Value	Earliest AF Term	Earliest AF Date	Earliest IHD Diagnosis Term
1838632	72	F								Atrial fibrillation	01/01/06	
2372505	65	F			X77c1	22/11/10						Angina pectoris
3175088	33	F										
4541305	70	M						01/07/13	145			Myocardial infarction
4757078	85	F										Acute myocardial infarction
4833021	74	F			X77c1	10/03/09						
5035569	79	F			X77c1	22/03/10						Ischaemic heart disease
5151155	74	M						09/07/13	446	Atrial fibrillation	26/08/08	
5367189	46	M			58530	08/08/08				Paroxysmal atrial fibrillation	14/11/07	
5446106	74	M	XaKNX	24/09/07	X77c1	16/07/07						Myocardial infarction
5489839	81	M			X77c1	13/02/06				Atrial fibrillation	21/12/96	
5532038	64	F			X77c1	13/01/09						
5545996	66	M										Angina pectoris
5550796	66	F										Angina pectoris
5578544	60	M			R1320	02/09/99						
5578545	52	M			X77c1	04/05/12						
5723288	73	F										Angina pectoris
5749447	74	F								Atrial fibrillation	18/10/04	Angina pectoris
5751536	82	M			58530	22/06/11		26/01/11				Unstable angina
5850674	56	M			5853z	18/03/04						Acute myocardial infarction

Pre-set filters

There are five pre-set filters provided to assist with focusing on patients most worthy of review. You can also apply your own custom filters to suit. The pre-set filters available include:

Filter 1: patients with a heart failure diagnosis but no LVSD diagnosis

Filter 2: patients with a LVSD diagnosis (or LVSD Echo) but no heart failure diagnosis

Filter 3: patients with heart failure monitoring recorded but no heart failure/LVSD diagnosis

Filter 4: patients with history of heart failure recorded but no heart failure/LVSD diagnosis

Filter 5: patients with a Brain Natriuretic Peptide (BNP) value greater than 100 but no heart failure/LVSD diagnosis

When any of these filters have been applied, it is then useful to review the columns containing indicative data items and supporting information.

GRASP - HF Care Management

The GRASP-HF care management tool helps practices to answer the following questions:

- What is the practice prevalence rate for heart failure with LVSD?
- How accurately are these patients' diagnoses being recorded?
- Are there any patients who would benefit from review?

GRASP-HF care management output

The GRASP-HF care management tool provides the following views in CHART:

1. Summary sheet - both dashboard view and classic view
2. Datasheet
3. Pre-set graphs

Detailed information on each of these data views can be found on the subsequent pages of this guide.

View 1 – CHART summary sheets

CHART summary sheets provide a snapshot of all the relevant data recorded by the practice. For GRASP-HF care management there are two different summary sheet views available; a dashboard view and a classic view. The dashboard view provides a visual display of the data whereas the classic view presents data in tabular form.

GRASP - Heart Failure with LVSD

Dashboard View

Practice Population	8932	
Patients with Heart Failure all types	198	2.2%
Patients with LVSD	174	
Patients with both Heart Failure and LVSD	170	

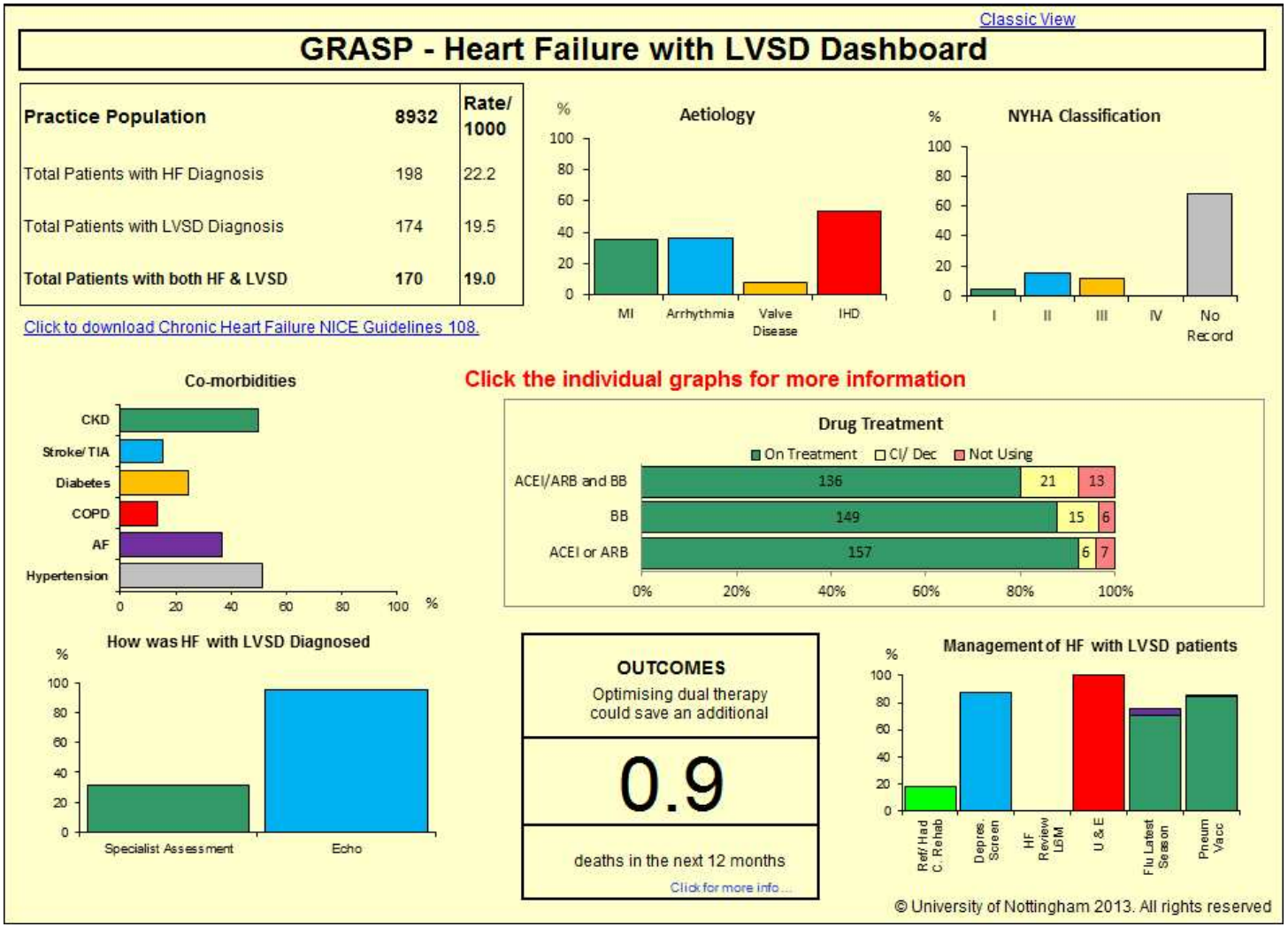
Patients with Heart Failure and LVSD who have had:	Number	%
Myocardial infarction	60	35%
Arrhythmias	62	36%
Valve disease	14	8%
IHD	91	54%
NYHA Classification Recorded	53	31%

Classification Count of Patie		
1	2	3
8	26	19

Co morbidities	Number	%
Diabetes	42	25%
Atrial Fibrillation	62	36%
COPD	23	14%
Hypertension	87	51%
CVA/TIA	26	15%
CKD	85	50%

Smoking Status	Number	%
Patients with LVSD with smoking status recorded in the last 12 months, or never smoked recorded at any time.	170	100%

GRASP-HF Summary – Dashboard



Prevalence

The classic view and dashboard view of the summary sheet provide key statistical information including an up to date practice population and the number of patients with a coded diagnosis of all types of heart failure. In addition the number of patients with a recording of LVSD, and the number of patients with both heart failure and LVSD is also shown. The dashboard view also shows a rate per thousand value.

Practice Population	8932	Rate/ 1000
Total Patients with HF Diagnosis	198	22.2
Total Patients with LVSD Diagnosis	174	19.5
Total Patients with both HF & LVSD	**170**	**19.0**

Click to download Chronic Heart Failure NICE Guidelines 108.

Figure 1. Dashboard - prevalence

GRASP - Heart Failure with LVSD

Practice Population	8932	
Patients with Heart Failure all types	198	2.2%
Patients with LVSD	174	
Patients with both Heart Failure and LVSD	170	

Dashboard View

Figure 2. Classic view – prevalence table

If your practice prevalence rate is low compared to the national (or peer average in your local area – peer average can be determined using CHART Online) then you should consider a strategy to look for the patients who are potentially missing a heart failure diagnosis and screen high risk patients. The casefinder element of the audit tool can help with this task.

What to note about this practice

- The prevalence of heart failure in this particular practice is high compared to the national QOF average of 0.7%
- There are four patients with a LVSD code but no heart failure diagnosis code
- There are 28 patients with a heart failure diagnosis that do not have a record of LVSD

Aetiology

The next section of the summary screen and dashboard looks at aetiology (the possible 'causes' of heart failure).

Figure 3 from the dashboard shows each possible cause as a percentage from the total of patients with heart failure and LVSD.

The classic tabular view (figure 4) of the summary sheet shows both a percentage and an actual patient number.

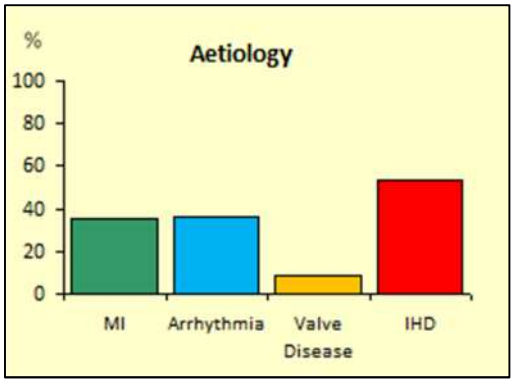


Figure 3. Dashboard graph - aetiology

% of Patients with Heart Failure and LVSD who have had:	Number	Percentage					
Myocardial infarction	60	35%					
Arrhythmias	62	36%					
Valve disease	14	8%	Classification Count of Patients				No Record
IHD	91	54%	1	2	3	4	
NYHA Classification Recorded	53	31%	8	26	19	0	117

Figure 4. Classic view – aetiology

Many patients suffering with heart failure will also have coronary heart disease (CHD) and there is often a past history of Myocardial Infarction (MI).

The bottom row of this section of the classic tabular view shows the total number of heart failure and LVSD patients who have had a New York Heart Association (NYHA) classification recorded. This is also shown in the dash board view in a graph of its own (figure 5). NICE guidelines advocate using the NYHA classification to assist with decision making concerning second line treatment options.

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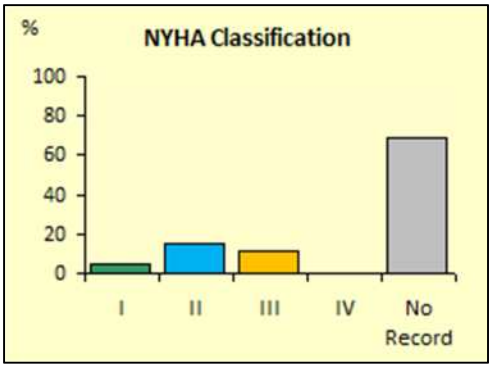

Figure 5. Dashboard graph – NYHA Classification

What to note about this practice

- A high proportion of patients with LVSD do not have a record of their NYHA classification recorded

Co-morbidities

The next sections of the summary screen and dashboard look at co-morbidities.

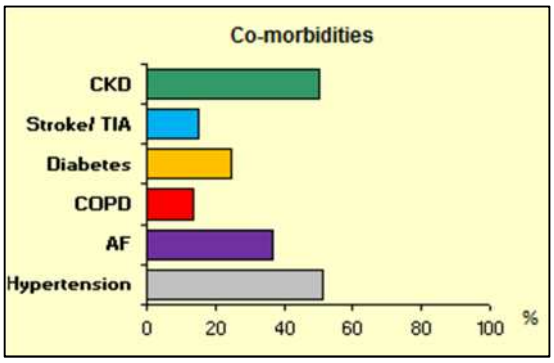

Figure 6. Dashboard graph – co-morbidities

The dashboard view (figure 6) shows the proportion of patients with LVSD who also have other conditions pertinent to their care.

The classic tabular view (figure 7) shows both the actual number of patients for each disease and the percentage.

Co morbidities	Number	Percentage
Diabetes	42	25%
Atrial Fibrillation	62	36%
COPD	23	14%
Hypertension	87	51%
CVA/TIA	26	15%
CKD	85	50%

Figure 7. Classic view – co-morbidities

Drug Treatment

Included on the dashboard is a graph showing treatment by angiotensin-converting enzyme inhibitors (ACEI), angiotensin receptor blockers (ARB) and beta-blocker (BB) categories prescribed in the last six months.

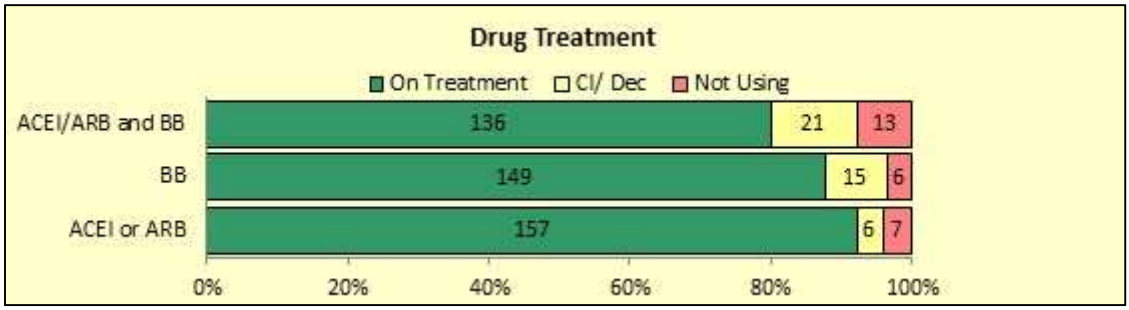

Figure 8. Dashboard – drug treatment

The equivalent section of the tabular classic view also shows ACEI, ARB and BB but also includes aldosterone antagonists and ivabradine.

Medications - Patients with Heart Failure and LVSD prescribed:	Number on drug(s)	CI/ Declined	Not using and not C/I	Percentage on drug
ACEI	152	16	2	89%
ARB	34	23	113	20%
ACEI/ARB *	157	6	7	92%
Beta Blocker *	149	15	6	88%
ACEI/ARB and Beta Blocker *	136	21	13	80%
Aldosterone Antagonist	35	0	135	21%
Ivabradine	0		170	0%

* these figures are shown on dashboard

Figure 9. Classic view – drug treatment

Dual treatment with both ACE inhibitors and beta-blockers (licensed for treatment of heart failure) is generally recommended as a first-line treatment for patients with heart failure due to LVSD.

NB: There were no available Read codes for contraindications for ivabradine at the time of the audit being created

What to note about this practice

- Figure 8 shows that there are 7.6% of LVSD patients who are not on ACEI/ARB and BB medication, and have no recorded contra-indication
- By filtering on the data sheet it is possible to see there are six patients on ACE inhibitors who are not on beta-blockers who are not recorded as being contra-indicated to beta-blockers. Reviewing the notes of these patients will help identify the appropriateness of starting them on beta-blockers. This will not only help provide better care for these patients but also help the practice in achieving the upper thresholds for QOF indicators HF003 and HF004.

How was heart failure with LVSD diagnosed

Both the dashboard and tabular classic view include data about investigations and assessments used to diagnose heart failure. Specialist assessment and echocardiography are recommended by NICE guideline CG108.

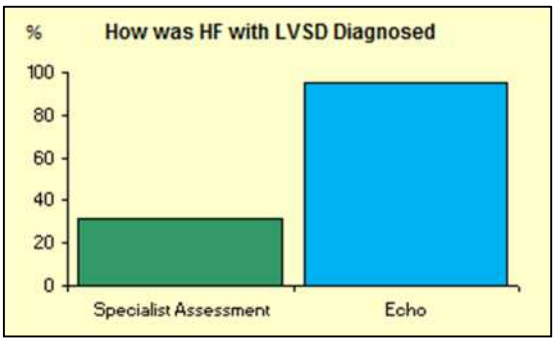

Figure 10. Dashboard – how HF diagnosed

In addition the tabular classic view includes data on BNP tests and ECGs, if recorded within three months of the diagnosis.

Investigations associated with Diagnosis	+/- 3 Months of Diagnosis	Percentage
Specialist Assessment	53	31%
Echo	162	95%
BNP Test	19	11%
ECG	94	55%

Figure 11. Classic view –investigations associated with diagnosis

What to note about this practice

- The practice is recording echocardiogram within three months either side of the LVSD diagnosis. This differs from the QOF HF002 indicator which only pertains to diagnoses made since 01/04/2006 and allows assessments to be made up to a year after diagnosis.

Outcomes

This part of the dashboard displays an estimate of the reduction in mortality in the next twelve months in patients with LVSD that would occur if 90% of them were on dual therapy (ie ACEI and BB). This estimate is based on results published in *Mant et al 2009*[4].

Figure 12. Dashboard – outcomes

Management of HF with LVSD patients

This section reports on other important aspects of patient care, including cardiac rehabilitation, vaccinations and screening for depression.

Patients with heart failure often experience a poor quality of life. Over a third of patients experience severe and prolonged depressive illness[5].

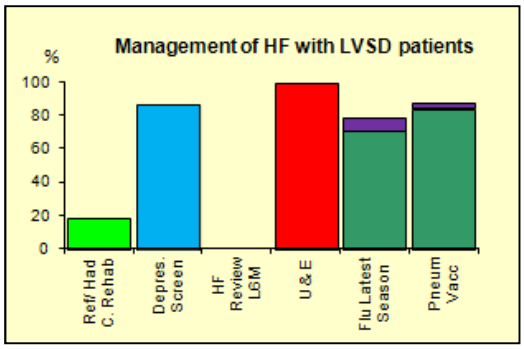

Figure 13. Dashboard – management

It is estimated that the vast majority (~96%) of heart failure patients do not receive cardiac rehabilitation[6]. The 2012 National Audit of Cardiac Rehabilitation (NACR) report shows that only 2% of patients receiving cardiac rehabilitation are referred because of heart failure[7].

This corresponds to approximately 4% of heart failure patients[7].

The dashboard and the tabular classic view displays data on the recording of any heart failure review codes (this does not include simple consultation reviews) in the last six months, urea and electrolytes (U&E) tests, flu and pneumococcal vaccinations.

Vaccinations	Number	Percentage	CI/Declined	Percentage
Seasonal Flu vaccination latest campaign - Reset in September for new season.	120	71%	13	8%
Pneumococcal vaccination ever	143	84%	5	3%

Figure 14. Classic view – vaccinations

Management - Patients with HF & LVSD who have been:	Number	%
Referred for/ Undertaking cardiac rehabilitation	31	18%
Screened for Depression	148	87%
Reviewed in last 6 months	0	0%
Urea and Electrolytes	170	100%

Figure 15. Classic view – management

What to note about this practice

- 18% of their heart failure and LVSD patients are recorded as having been referred to cardiac rehabilitation. This is far better than the average 4% reported on in the 2012 NACR report[7]
- 87% of patients have been screened for depression which is positive
- Suspiciously no records of heart failure review appear to have been found in the last six months. This would need further investigations to find the cause. Begin by looking at the datasheet column heading for the column titled '*HF Review Code'*. A pop up text box will be displayed showing the Read codes reported on in this column.

  NICE guidelines recommend at least six monthly monitoring for stable patients and more frequent for those whose condition or medication has changed. It may be that this practice relies on simple encounter records to track its formal heart failure reviews
- Seasonal flu and pneumococcal vaccination rates amongst patients with LVSD are good

Smoking status

The classic tabular view contains a section on the smoking status of patients with LVSD.

The first row of figure 16 gives an indication of how well smoking status is recorded.

Smoking Status	Number	Percentage
Patients with heart failure with smoking status recorded in the last 12 months, or never smoked recorded at any time.	170	100%
Patients with heart failure recorded as current smokers in the last 12 months	9	5%

Figure 16. Classic view – smoking status

The second row of figure 16 shows the number of LVSD patients recorded as 'current smokers' in the last 12 months.

What to note about this practice

- The recording of smoking status of patients with LVSD in this practice is complete at 100%
- By viewing the 'current smoker' entries in the datasheet it shows five of the nine patients smoking entries were recorded in the last six months

View 2 – Pre-set graph: Number of drug types prescribed

There are five pre-set graph views available within the GRASP-HF tool, one of which is shown below. This graph reports on the number of different heart failure drugs patients are currently being prescribed:

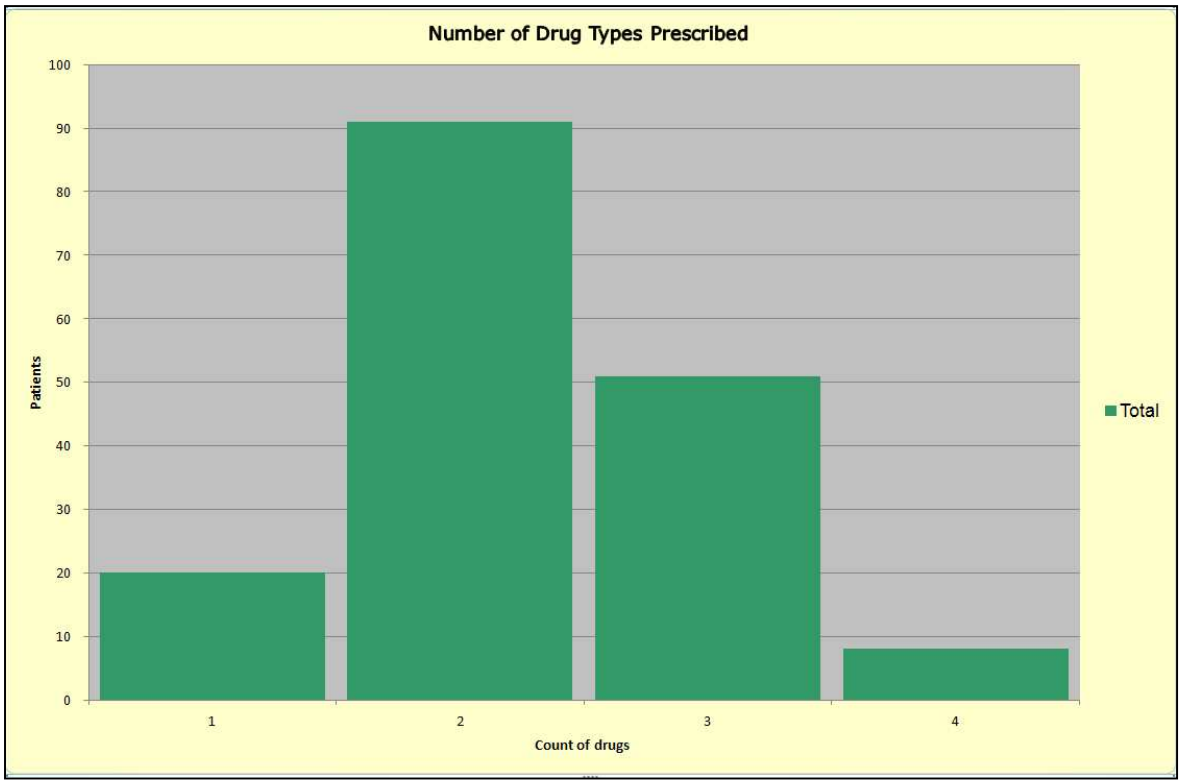

Figure 17. Pre-set graph – number of drug types prescribed

The drug types represented here are ACEI or ARB, betablockers, aldosterone antagonists or ivabradine.

By double-clicking on each bar, one is able to generate a list of patients represented by each bar. An example is shown below for those patients on four drugs:

Number of Drugs Prescribed - 4

Return to Graph

Referen	Age	S	Count of drugs
7060145	68	M	4
7057836	72	M	4
7057607	78	M	4
7061235	63	F	4
7062199	67	M	4
7054879	72	F	4
7066321	74	F	4
6794682	69	F	4

Figure 18. Pre-set graph – drill through to data sheet from graph bar

View 3 - Datasheet view

The datasheet view allows you to access patient level data for all those included in the audit. When preparing the queries you can opt to run a pseudonymised set (as shown below with a reference number) or a patient identifiable set that will return named patient information:

Reference	Age	Sex	Registered Date	Earliest Heart Failure Diagnosis Code	Earliest Heart Failure Diagnosis Term	Earliest Heart Failure Diagnosis Date	LVSD Diagnosis Code	LVSD Diagnosis Term	LVSD Diagnosis Date
4728497	44	M	12/03/13	G58..	Heart failure	20/07/11	XaJ98	Echocardiogram shows left ventricular systolic dysfunction	27/03/13
5303601	80	F	25/01/88	G58..	Heart failure	06/02/13	XaJ98	Echocardiogram shows left ventricular systolic dysfunction	06/02/13
5459330	78	M	19/03/91	G58..	Heart failure	04/07/08	Xallq	Left ventricular systolic dysfunction	04/07/08
5552001	76	F	25/01/88	G58..	Heart failure	12/03/13	XaJ98	Echocardiogram shows left ventricular systolic dysfunction	12/03/13
5559278	64	M	25/01/88	G58..	Heart failure	06/08/09	XaJ98	Echocardiogram shows left ventricular systolic dysfunction	06/08/09
5788994	77	F	25/01/88	G58..	Heart failure	28/09/98	Xallq	Left ventricular systolic dysfunction	27/02/02
5948204	78	M	25/01/88	G58..	Heart failure	08/06/10	XaJ98	Echocardiogram shows left ventricular systolic dysfunction	08/06/10
5990243	53	M	03/11/09	G58..	Heart failure	11/03/08	Xallq	Left ventricular systolic dysfunction	31/07/03
5996068	84	M	05/02/13	G58..	Heart failure	04/01/10	XaJ98	Echocardiogram shows left ventricular systolic dysfunction	22/06/10
6000058	52	M	24/08/12	G58..	Heart failure	01/06/12	Xallq	Left ventricular systolic dysfunction	19/07/12
6042241	67	M	16/04/87	G58..	Heart failure	07/12/11	XaJ98	Echocardiogram shows left ventricular systolic dysfunction	07/12/11
6234129	80	F	12/02/91	G58..	Heart failure	18/03/10	XaJ98	Echocardiogram shows left ventricular systolic dysfunction	18/03/10

Figure 19. Datasheet view – GRASP-HF care management set

The datasheet is an essential tool for finding out more about any patients that appear to have missing data items or inaccurate recording. It allows you to view more than one parameter at the same time, such as latest smoking term, count of drugs, diagnosis code and latest NYHA classification score.

NB: Where a practice has used a synonymous code (i.e. a dash code) in a patients' record, the rubric or description of the code will be displayed as the preferred term. Similarly where a practice has used a local code, the rubric or description of the code will not be displayed, but the code itself will appear in both columns.

Pre-set filters

There are five pre-set filters provided within this audit. You can also apply your own custom filters to suit:

Filter 1: Not on dual therapy (ACEI/ARB & BB)

Filter 2: HF not reviewed in last 6 months

Filter 3: Not had depression screen

Filter 4: Current smoker

Filter 5: Referred for/ Undertaking cardiac rehab

Key questions for GP practices

- Are we caring for our patients with LVSD as well as we could be?
  Are we actively preventing disease progression where we can?
- Are key data items being recorded routinely and accurately?
- Are we missing key aspects during reviews with our LVSD patients?
- How accurate is our heart failure register?
  Are there patients in our practice with heart failure or LVSD that we don't know about?
- Are we treating our patients with LVSD in a way that is cost effective?
- Do we need to review our policy on prescribing ACEI, ARB, and beta blockers?
- Is our treatment policy in line with NICE guidance?

Recommended follow-up work

- Improvements to data recording and accuracy of clinical coding
- Review of treatment policy for patients with LVSD
- Review effectiveness of influenza and pneumococcal vaccination recall procedures
- Comparative data analysis using CHART Online – allowing comparison with peer practices

References

1. The NHS Outcomes Framework 2013 to 14 (2012), Department of Health

2. Compendium of Population Health Indicators (March 2013), The Health and Social Care Information Centre

3. NICE clinical guideline CG108. Chronic HF: management of chronic HF in adults in primary and secondary care (2010), National Institute for Health and Care Excellence (NICE)

4. Systematic review and individual patient data meta-analysis of diagnosis of heart failure, with modelling of implications of different diagnostic strategies in primary care. J Mant et al, Health Technology Assessment 2009; Vol. 13: No. 32.

5. Chronic Heart Failure - Quality Standard 9 (June 2011), National Institute for Health and Care Excellence (NICE)

6. Cardiovascular Disease Outcomes Strategy: Improving outcomes for people with or at risk of cardiovascular disease(5th March 2013), Department of Health Cardiovascular Disease Team

7. National Audit of Cardiac Rehabilitation (NACR) (10th June 2013), The University of York

Appendices

1. Datasheet column list for GRASP-HF casefinder (pseudonymised set)

Reference
Age
Sex
Registered Date
Earliest Heart Failure Diagnosis Code
Earliest Heart Failure Diagnosis Term
Earliest Heart Failure Diagnosis Date
Earliest LVSD Dx Code
Earliest LVSD Dx Term
Earliest LVSD Dx Date
LVSD Echo Date
Earliest HF Confirmation Date
Earliest Hx HF Code
Earliest Hx HF Date
Earliest Suspected HF Date
HF Excluded Code
HF Excluded Date
NYHA Classification
NYHA Date
Latest HF Monitoring Term
Latest HF Monitoring Date
Echocardiogram Code
Echocardiogram Date
Normal Ejection Fraction Date
BNP Test Date
BNP Test Value
Earliest AF Term
Earliest AF Date
Earliest IHD Diagnosis Term
Earliest IHD Diagnosis Date
Earliest Arrhythmia Dx Term
Earliest Arrhythmia Dx Date
Earliest Heart Valve Prob Term
Earliest Heart Valve Prob Date
Earliest Cardiomegaly Term
Earliest Cardiomegaly Date
Earliest Cardiomyopathy Term
Earliest Cardiomyopathy Date
Borg Score Term
Borg Score Date
MRC Breathlessness Grade
MRC Score Date
Earliest Short of Breath Term
Earliest Short of Breath Date

Oedema Term
Oedema Date
Pulmonary Oedema Term
Pulmonary Oedema Date

Loop Diuretic Term
Loop Diuretic Date
Metolazone Term
Metolazone Date
Aldosterone Antagonist Term
Aldosterone Antagonist Date
Ivabradine Term
Ivabradine Date
Digoxin Term
Digoxin Date
Beta Blocker Term
Beta Blocker Date

2. Datasheet column list for GRASP-HF care management (pseudonymised set)

- Reference
- Age
- Sex
- Registered Date
- Earliest Heart Failure Diagnosis Code
- Earliest Heart Failure Diagnosis Term
- Earliest Heart Failure Diagnosis Date
- LVSD Diagnosis Code
- LVSD Diagnosis Term
- LVSD Diagnosis Date
- Earliest MI Diagnosis Code
- Earliest MI Diagnosis Term
- Earliest MI Diagnosis Date
- Arrythmia Diagnosis Code
- Arrythmia Diagnosis Term
- Arrythmia Diagnosis Date
- Heart Valve Problem Code
- Heart Valve Problem Term
- Heart Valve Problem Date
- Earliest IHD Diagnosis Code
- Earliest IHD Diagnosis Term
- Earliest IHD Diagnosis Date
- Echocardiogram within 3 Mts HF Diag
- Echo Referral within 3 Mts HF Diag
- Specialist Assmt within 3 Mts HF Diag
- ECG within 3 Mts HF Diag
- BNP Within 3 Months HF Diag
- HF Review Code
- HF Review Term
- HF Review Date
- NYHA Code
- NYHA Classification
- NYHA Date
- Depression Screen Code
- Depression Screen Term
- Depression Screen Date
- Pulse Rate Code
- Pulse Value
- Pulse Date
- LVEF Date
- LVEF Value
- Cardiac Rehab Code
- Cardiac Rehab Term
- Cardiac Rehab Date
- Cardiac Rehab Declined Code
- Cardiac Rehab Declined Term
- Cardiac Rehab Declined Date
- Cardiac Rehab Referral Code

- Cardiac Rehab Referral Term
- Cardiac Rehab Referral Date
- Latest Card Rehab/ Referred Card Rehab
- Earliest Diabetes Diagnosis Code
- Earliest Diabetes Diagnosis Term
- Earliest Diabetes Diagnosis Date
- Earliest AF Diagnosis Code
- Earliest AF Diagnosis Term
- Earliest AF Diagnosis Date
- Earliest COPD Diagnosis Code
- Earliest COPD Diagnosis Term
- Earliest COPD Diagnosis Date
- Earliest Hypertension Diagnosis Code
- Earliest Hypertension Diagnosis Term
- Earliest Hypertension Diagnosis Date
- Earliest CVA/TIA Diagnosis Code
- Earliest CVA/TIA Diagnosis Term
- Earliest CVA/TIA Diagnosis Date
- Earliest CKD Diagnosis Code
- Earliest CKD Diagnosis Term
- Earliest CKD Diagnosis Date
- Earliest CKD Stage Code
- Earliest CKD Stage Term
- Earliest CKD Stage Date
- CKD Diag or Stage
- Count of Comorbidities
- Seasonal Flu Vacc Latest Season
- Seasonal Flu Vacc Term Latest Season
- Seasonal Flu Vacc Date Latest Season
- Reason No Flu Vacc Given Code
- Reason No Flu Vacc Given Term
- Reason No Flu Vacc Given Date
- Pneumococcal Vaccination Ever Code
- Pneumococcal Vaccination Ever Term
- Pneumococcal Vaccination Ever Date
- Reason No Pneumo Vacc Given Code
- Reason No Pneumo Vacc Given Term
- Reason No Pneumo Vacc Given Date
- Latest Smoking Code
- Latest Smoking Term
- Latest Smoking Date
- Latest Smoking Status
- Anaemia Test Code
- Anaemia Test Date
- Anaemia Test Value
- Renal Function Test Code
- Renal Function Test Date
- Renal Function Test Value
- U/E Test Code
- U/E Test Date
- U/E Test Value
- ACEI Code

- ACEI Term
- ACEI Date
- Reason No ACEI Prescribed Code
- Reason No ACEI Prescribed Term
- Reason No ACEI Prescribed Date
- ACEI Rx Status
- Beta Blocker Code
- Beta Blocker Term
- Beta Blocker Date
- Reason No Beta Blocker Prescribed Code
- Reason No Beta Blocker Prescribed Term
- Reason No Beta Blocker Prescribed Date
- Beta Blocker Rx Status
- ARB Code
- ARB Term
- ARB Date
- Reason No ARB Prescribed Code
- Reason No ARB Prescribed Term
- Reason No ARB Prescribed Date
- ARB Rx Status
- ACEI or ARB Rx
- ACEI/ARB AND Beta Blocker Rx
- Aldosterone Antag Code
- Aldosterone Antag Term
- Aldosterone Antag Date
- Reason no AA Prescribed Code
- Reason no AA Prescribed Term
- Reason no AA Prescribed Date
- Aldosterone Antag Rx Status
- Ivabradine Code
- Ivabradine Term
- Ivabradine Date
- Count of drugs