

National Institute for Health and Care Excellence
Acute Heart Failure
Guideline Consultation Table
02/05/14-13/06/14

ID	Type	Stakeholder	Order No	Document	Section No	Page No	Comments	Proposed Response
							Please insert each new comment in a new row.	Please respond to each comment
6	SH	Resuscitation Council (UK)	1	NICE	Introduction	3	The opening sentence of the introduction is written in poor English and thereby sets a disappointingly low standard. This should be rewritten using correct, plain English.	Thank you for your comment. This document has now been edited by the NICE editor according to NICE house style.
7	SH	Resuscitation Council (UK)	2	NICE	Introduction	3	Acute decompensation of chronic heart failure has many potential triggers, of which 'a significant deterioration in heart function' is only one. The apparent failure to recognise this reduces the credibility of this document.	Thank you for your comment. We have removed '(that is, a significant deterioration in heart function).'
8	SH	Resuscitation Council (UK)	3	NICE		5	Do you mean '...best practice advice...' or '...best-practice advice...'? Please see note 10.	Thank you for your comment. We mean 'best practice advice'.
9	SH	Resuscitation Council (UK)	4	NICE	KPI	8	There is an error in the wording here. We think that this was intended to read: ' All hospitals admitting people with suspected acute heart failure should: ' <ul style="list-style-type: none"> • provide a specialist heart failure service, based on a cardiology ward and providing outreach services. [1.7.1] • ensure that all people being admitted to hospital with suspected acute heart failure have early and continuing input from a dedicated specialist heart failure team. [1.7.2] • etc.' 	Thank you for your comment but as these are covering different aspects of organisation of care, they should remain as separate recommendations.
10	SH	Resuscitation Council (UK)	5	NICE	KPI	8	The third bullet point is worded incorrectly. A natriuretic peptide measurement may 'rule out' acute heart failure or may support that	Thank you for your comment. This is worded correctly as is due to the poor specificity of natriuretic peptide for heart failure.

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							suspected cause of the person's symptoms and signs.	
11	SH	Resuscitation Council (UK)	6	NICE	KPI	8	We think that you mean that people should consider echocardiography being performed within 24 hours of admission . The present wording would allow it to be considered within 24 hours but performed at a later date.	Thank you for your comment. We believe the recommendation is clear as currently worded.
12	SH	Resuscitation Council (UK)	7	NICE	KPI	8	If a person has decompensated heart failure and a heart rate of (for example) 52/min in sinus rhythm it is likely that they are taking an excessive dose of their beta blocker, so recommending that it is continued without review of the dose will place some people at risk of continued iatrogenic harm.	Thank you for your comment. . The evidence reviewed was only on continuing or stopping beta blockers and therefore, although dose reduction was discussed, the evidence was not searched for and therefore it was not possible to make a recommendation about dose adjustment of beta blockers.
13	SH	Resuscitation Council (UK)	8	NICE	KPI	8	The 8 th and 9th bullet points are also worded badly. We think that you intended to say that people should be offered an ACEI during hospital admission if they have a reduced LV ejection fraction, and that they should be offered a “mineralocorticoid antagonist” (please see note 9) during hospital admission..... It is the offer of treatment that should occur during admission, regardless of when the reduced ejection fraction is identified.	Thank you for your comment. The relevant recommendations and the algorithm have been changed to ensure clarity when they are referring to new suspected heart failure patients.
14	SH	Resuscitation Council (UK)	9	NICE	KPI	8	There is no such thing as a mineralocorticoid receptor antagonist. The group of drugs that you are referring to are mineralocorticosteroid antagonists or mineralocorticosteroid receptor blockers.	Thank you for your comment. MRA has been changed to aldosterone antagonists in all instances.
15	SH	Resuscitation Council (UK)	10	NICE	General		The above points include some basic errors of the use of English. In addition there are recurring inconsistencies and errors of punctuation throughout. Specifically these include inconsistent and incorrect use of hyphens, which should be used in a compound adjective but not in a compound noun.	Thank you for your comment. This document has been edited by the NICE editor according to NICE house style.
16	SH	Resuscitation Council	11	NICE	1.1.1	10	We think that you mean 'Take a history and perform clinical examination...'	Thank you for your comment. We have amended this.

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		(UK)						
17	SH	Resuscitation Council (UK)	12	NICE	1.1.1	10	By referring to 'standard investigations' you are implying that these may be 'standard' in all patients admitted to hospital, instead of encouraging good practice so that investigations in each individual are tailored to the specific clinical questions that need answering in that individual. Reference to the guideline for chronic heart failure does not compensate adequately for this. It would be better to use a term such as 'appropriate investigations'.	Thank you for your comment. We have cross referred to the Chronic heart failure guideline (CG108) which recommends the clinician to consider undertaking tests.
18	SH	Resuscitation Council (UK)	13	NICE	1.1.2	10	Please see note 5	Thank you for your comment. We are unclear what this is referring to.
19	SH	Resuscitation Council (UK)	14	NICE	1.1.5	10	Please see note 6	Thank you for your comment. We are unclear what this is referring to.
20	SH	Resuscitation Council (UK)	15	NICE	1.2.1	10	We think that you mean 'advance care plan' not 'advanced...'. Please see also note 60 regarding capacity.	Thank you for your comment. We have removed this recommendation. We have now cross referred to the Patient experiences in adult NHS services guideline (CG138) recommendations on consent and capacity.
21	SH	Resuscitation Council (UK)	16	NICE	1.2.5	11	It is the person's weight that should be monitored, not just weight loss. A gain in weight is as important as weight loss or the absence of either.	Thank you for your comment. 'Weight loss' has been changed to 'weight' in this instance.
22	SH	Resuscitation Council (UK)	17	NICE	1.3.5	12	It would be helpful to include definition of what you mean by 'confirmed diuretic resistance'. As written, this recommendation is open to subjective interpretation and therefore to error.	Thank you for your comment. We have added 'diuretic resistance to the glossary.
23	SH	Resuscitation Council (UK)	18	NICE	1.4.1	12	Please see note 7	Thank you for your comment. We are unclear what this is referring to.
24	SH	Resuscitation Council (UK)	19	NICE	1.4.4	13	Please see note 8	Thank you for your comment. We are unclear what this is referring to.
25	SH	Resuscitation Council (UK)	20	NICE	1.4.5	13	Please see notes 8 & 9	Thank you for your comment. We are unclear what this is referring to.
26	SH	Resuscitation Council (UK)	21	NICE	1.5.4	13	'Consider surgical mitral valve repair or replacement for people with heart failure	Thank you for your comment. We have now amended the recommendation.

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							assessed as suitable for surgery' implies that this should be done for all people with heart failure, when what you mean to say is that this should be done for those in whom mitral valve disease is a major contributing cause of their heart failure.	
27	SH	Resuscitation Council (UK)	22	NICE	1.6.1	13	Many 'people with potentially reversible severe acute heart failure will respond to prompt medical treatment and will not need consideration or discussion of mechanical circulatory support. We suggest revision of the wording to state clearly what is intended.	Thank you for your comment. We have clarified that discussion should be by the specialist.
28	SH	Resuscitation Council (UK)	23	NICE	1.7	14	Please see note 4. We think that this is intended to be set out as follows in order to read logically: 1.7 Organisation of care All hospitals admitting people with suspected acute heart failure should: 1.7.1 provide a specialist heart failure service, based on a cardiology ward and providing outreach services. 1.7.2 ensure that all people being admitted to hospital with suspected acute heart failure have early and continuing input from a dedicated specialist heart failure team. 1.7.3 plan the following for people with acute heart failure in line with Chronic heart failure (NICE clinical guideline 108): <ul style="list-style-type: none"> • discharge from hospital after the acute phase and • subsequent management in primary care including ongoing monitoring and care provided by the multidisciplinary team and • information and communication about their condition, its treatment and prognosis. 1.7.4 ensure that a follow-up clinical	Thank you for your comment. The GDG have reviewed the structure of the recommendations and believe them to be clear and follow the order you have suggested. Organisation of care has now been moved to the beginning of the guideline.

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							assessment is undertaken by a member of the multidisciplinary heart failure team within 2 weeks of the person being discharged from hospital.	
29	SH	Resuscitation Council (UK)	24	NICE also FULL	2.1	15	This research recommendation highlights an important omission from this guideline. Some people with an acute relapse of chronic heart failure are hypotensive or relatively hypotensive and fail to respond to intravenous diuretic therapy because of the effect of their ACE inhibitor therapy in blocking renal autoregulation. In such people it is important to omit the ACEI to allow renal blood flow to improve and deliver their loop diuretic to its target organ. This need is often unrecognised as health professionals pursue guidelines without recognising the needs of the individual and without understanding the pharmacology of the treatment that they are using. It is as important to stop treatment that is doing harm as it is to 'offer' treatment that is expected to provide benefit.	Thank you for your comment. This is beyond the level of detail of the guideline and we agree that clinical judgement is required.
30	SH	Resuscitation Council (UK)	25	NICE and FULL	General - Important omission		Another important omission from this guideline is the absence of any mention of cardiac arrhythmia as a contributing cause of acute heart failure. This really must be corrected. Sustained tachyarrhythmia may occur as a complication of underlying structural or ischaemic heart disease, causing an acute onset or relapse of heart failure, but in some people a sustained tachyarrhythmia may be the primary problem, leading to myocardial impairment and failure as a secondary phenomenon. Failure to understand these mechanisms and to identify and treat the arrhythmia appropriately will leave the patient at risk of death and of uncontrolled heart failure from a potentially reversible cause.	Thank you for your comment. Tachyarrhythmia was not prioritised in the scope by stakeholders. We have referred to related NICE guidelines for the management of specific conditions where appropriate.

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31	SH	Resuscitation Council (UK)	26	NICE		17	An important topic for research would be the role of fluid restriction in the treatment of heart failure.....	Thank you for your comment. We can only make research recommendations on topics we have reviewed the evidence for.
32	SH	Resuscitation Council (UK)	27	FULL	General	e.g.15 lines 6 and 25	Please see note 10	Thank you for your comment. We think that the page and line numbers you are quoting are incorrect, however we assume that you are identifying the same issue in the FULL version of the guideline that you identified in the NICE version. Hopefully our response to your earlier comment applies here.
33	SH	Resuscitation Council (UK)	28	FULL	Review questions	22	Please see note 9	Thank you for your comment. We think that the page and line numbers you are quoting are incorrect, however we assume that you are identifying the same issue in the FULL version of the guideline that you identified in the NICE version. Hopefully our response to your earlier comment applies here.
34	SH	Resuscitation Council (UK)	29	FULL		25 line 18	Please see note 9	Thank you for your comment. We think that the page and line numbers you are quoting are incorrect, however we assume that you are identifying the same issue in the FULL version of the guideline that you identified in the NICE version. Hopefully our response to your earlier comment applies here.
35	SH	Resuscitation Council (UK)	30	FULL	4.1 Algorithm	41	The first purple box is worded incorrectly. You do not mean 'Persisting hypoxaemia despite oxygen therapy or acidaemia'. You mean ' Persisting acidaemia or hypoxaemia despite oxygen therapy '.	Thank you for your comment. We have amended this to 'Persisting hypoxaemia or acidaemia despite initial therapy'.
36	SH	Resuscitation Council (UK)	31	FULL	4.1 Algorithm	41	First blue box under 'Critical aortic stenosis' should read ' Offer surgical aortic valve replacement ' not '...mitral valve replacement'.	Thank you for your comment. We have now amended this.
37	SH	Resuscitation Council (UK)	32	FULL	4.1 Algorithm	41	The wording in the blue box under 'Cardiogenic shock' requires discussion of every patient with cardiogenic shock with a transplant centre. This will be clinically inappropriate for some patients, a waste of	Thank you for your comment. We have amended the algorithm to avoid this misinterpretation.

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							people's time and a distraction from the provision of high-quality care, individualised in full clinical context	
38	SH	Resuscitation Council (UK)	33	FULL	4.1 Algorithm	41	For the blue box under 'Left ventricular systolic dysfunction' please see notes 9 and 10.	Thank you for your comment. Mineralocorticoid receptor antagonist (MRA) is commonly used, and is a familiar term to generalists.
39	SH	Resuscitation Council (UK)	34	FULL	4,2	42 line 11	Please see note 5.	Thank you for your comment. We think that the page and line numbers you are quoting are incorrect, however we assume that you are identifying the same issue in the FULL version of the guideline that you identified in the NICE version. Hopefully our response to your earlier comment applies here.
40	SH	Resuscitation Council (UK)	35	FULL	4.2	42 line 16	Please see note 6.	Thank you for your comment. We think that the page and line numbers you are quoting are incorrect, however we assume that you are identifying the same issue in the FULL version of the guideline that you identified in the NICE version. Hopefully our response to your earlier comment applies here.
41	SH	Resuscitation Council (UK)	36	FULL	4.2	42 line 17	Please see note 7.	Thank you for your comment. We think that the page and line numbers you are quoting are incorrect, however we assume that you are identifying the same issue in the FULL version of the guideline that you identified in the NICE version. Hopefully our response to your earlier comment applies here.
42	SH	Resuscitation Council (UK)	37	FULL	4,2	42 lines 23 + 25	Please see note 8.	Thank you for your comment. We think that the page and line numbers you are quoting are incorrect, however we assume that you are identifying the same issue in the FULL version of the guideline that you identified in the NICE version. Hopefully our response to your earlier comment applies here.
43	SH	Resuscitation Council (UK)	38	FULL	4.2	42 line 25	Please see note 9.	Thank you for your comment. We think that the page and line numbers you are quoting are incorrect, however we assume that you

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								are identifying the same issue in the FULL version of the guideline that you identified in the NICE version. Hopefully our response to your earlier comment applies here.
44	SH	Resuscitation Council (UK)	39	FULL	4.3 1.	43 line 3	Please see note 11.	Thank you for your comment. We think that the page and line numbers you are quoting are incorrect, however we assume that you are identifying the same issue in the FULL version of the guideline that you identified in the NICE version. Hopefully our response to your earlier comment applies here.
45	SH	Resuscitation Council (UK)	40	FULL	4.3 2.	43 line 7	Please see note 5.	Thank you for your comment. We think that the page and line numbers you are quoting are incorrect, however we assume that you are identifying the same issue in the FULL version of the guideline that you identified in the NICE version. Hopefully our response to your earlier comment applies here.
46	SH	Resuscitation Council (UK)	41	FULL	4.3 5.	43 line 18	Please see note 6.	Thank you for your comment. We think that the page and line numbers you are quoting are incorrect, however we assume that you are identifying the same issue in the FULL version of the guideline that you identified in the NICE version. Hopefully our response to your earlier comment applies here.
47	SH	Resuscitation Council (UK)	42	FULL	4.3 7.	43 line 22	Please see notes 15. Please see also note 60 regarding capacity.	Thank you for your comment. We think that the page and line numbers you are quoting are incorrect, however we assume that you are identifying the same issue in the FULL version of the guideline that you identified in the NICE version. Hopefully our response to your earlier comment applies here.
48	SH	Resuscitation Council (UK)	43	FULL	4.3 11.	43 line 30	Please see note 16.	Thank you for your comment. We think that the page and line numbers you are quoting are incorrect, however we assume that you are identifying the same issue in the FULL version of the guideline that you identified in the NICE version. Hopefully our response to

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								your earlier comment applies here.
49	SH	Resuscitation Council (UK)	44	FULL and NICE	4.3 31 1.5.4	44 line 39 13	This statement requires re-wording. It is the people who are assessed as being suitable for surgery, not the heart failure. Please see also note 21.	Thank you for your comment. We think it is clear that the recommendation refers to people with heart failure.
50	SH	Resuscitation Council (UK)	45	FULL	4.3 23	44 line 15	Please see note 7.	Thank you for your comment. We think that the page and line numbers you are quoting are incorrect, however we assume that you are identifying the same issue in the FULL version of the guideline that you identified in the NICE version. Hopefully our response to your earlier comment applies here.
51	SH	Resuscitation Council (UK)	46	FULL	4.3 26 & 27	44 lines 25 & 28	Please see notes 8 & 9.	Thank you for your comment. We think that the page and line numbers you are quoting are incorrect, however we assume that you are identifying the same issue in the FULL version of the guideline that you identified in the NICE version. Hopefully our response to your earlier comment applies here.
52	SH	Resuscitation Council (UK)	47	FULL	4.3 32.	45 line 1	Please see note	Thank you for your comment. We think that the page and line numbers you are quoting are incorrect, however we assume that you are identifying the same issue in the FULL version of the guideline that you identified in the NICE version. Hopefully our response to your earlier comment applies here
53	SH	Resuscitation Council (UK)	48	FULL	4.3 33-36	45 line 4ff	Please see notes 4 & 23. We think that this is intended to be set out as follows in order to read logically: 33. All hospitals admitting people with suspected acute heart failure should: <ul style="list-style-type: none"> a. provide a specialist heart failure service, based on a cardiology ward and providing outreach services. b. ensure that all people being admitted to hospital with suspected acute heart failure have early and continuing input from a dedicated specialist heart 	Thank you for your comment but as these are covering very different aspects of organisation of care, they should remain as separate recommendations.

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							<p>failure team.</p> <p>c. plan the following for people with acute heart failure in line with Chronic heart failure (NICE clinical guideline 108):</p> <ul style="list-style-type: none"> • discharge from hospital after the acute phase and • subsequent management in primary care including ongoing monitoring and care provided by the multidisciplinary team and • information and communication about their condition, its treatment and prognosis. <p>d. ensure that a follow-up clinical assessment is undertaken by a member of the multidisciplinary heart failure team within 2 weeks of the person being discharged from hospital.</p>	
54	SH	Resuscitation Council (UK)	49	FULL	4.4	45	Please see previous note about omitted research recommendations. One important omission is a recommendation to investigate whether fluid restriction contributes usefully to the outcome of treatment in acute heart failure or causes patients misery and/or harm. This is a measure that is applied randomly and with varying degrees of degree and enthusiasm by different doctors, so there is a glaring need for some evidence-based guidance on this.	Thank you for your comment. Fluid restriction was not prioritised within the scope of this guideline by stakeholders. It may be prioritised in future updates given that an evidence base is now emerging.
55	SH	Resuscitation Council (UK)	50	FULL	Table 7	46	The wording of the sentence describing the population requires revision as it does not make sense.	Thank you for your comment. This has now been corrected.
56	SH	Resuscitation Council (UK)	51	FULL	5.1.1	47 line 15	...data were excluded	Thank you for your comment. This has been corrected.
57	SH	Resuscitation Council (UK)		FULL	5.1.1	47 line 19	Delete question mark	Thank you for your comment. This has been deleted.
58	SH	Resuscitation	52	FULL	5.1.1	57 line 3	60 ml/min/1.73m ² NOT 60 ml/min/1.73m2	Thank you for your comment. This has been

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		Council (UK)						corrected.
59	SH	Resuscitation Council (UK)	53	FULL	5.1.4	67	Please see note 11. We think that you mean 'Take a history and perform clinical examination...'	Thank you for your comment. This has been amended as suggested.
60	SH	Resuscitation Council (UK)	54	FULL	5.1.4	67	Please see note 12.	Thank you for your comment. We think that the page and line numbers you are quoting are incorrect, however we assume that you are identifying the same issue in the FULL version of the guideline that you identified in the NICE version. Hopefully our response to your earlier comment applies here.
61	SH	Resuscitation Council (UK)	55	FULL	5.1.4	67	...allow other conditions to be diagnosed and treated. Acute heart failure is not 'a pathology'.	Thank you for your comment. This has been amended as suggested.
62	SH	Resuscitation Council (UK)	56	FULL	5.1.4	68, 69, 70, 71	The yellow 'recommendations' box has been duplicated on each page. The purpose of this is unclear. If this is to be done, each required correction as per notes 11 and 12 (53 and 54).	Thank you for your comment. It is standard for this to be repeated on each page. We have corrected this now so that all Recommendations and link to evidence tables are consistent.
63	SH	Resuscitation Council (UK)	57	FULL	5.2	71 para 1	<p>The wording of this paragraph is misleading and promotes incorrect clinical understanding. It conflicts with accepted definitions of heart failure. The ESC Textbook of Cardiovascular Medicine defines heart failure as '...a common clinical syndrome arising, in ways that are incompletely understood, as a consequence of reduced cardiac pump function. The term "syndrome" merely describes a constellation of symptoms and signs and, therefore, heart failure is not a diagnosis as such.'</p> <p>It is not correct to say that echocardiography is established as an accurate tool to diagnose heart failure. What echocardiography can do is to provide information about some of the causes of heart failure and the mechanism(s) by which those causes contribute to heart failure in any individual patient. You state this more correctly on page 73 where you say</p>	Thank you for your comment. The wording of the introduction has been reviewed and revised to provide greater clarity, including the role of echocardiography as a test to evaluate the structural function of the heart.

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							<p>'Echocardiography is required to identify the cardiac abnormality that is underlying the clinical syndrome of heart failure'.</p> <p>It is possible to have abnormalities on echocardiography that could cause the clinical syndrome of heart failure, but for the patient's symptoms and signs to be due to another problem (e.g. chronic lung disease).</p>	
64	SH	Resuscitation Council (UK)	58	FULL	5.2.4	72, 73	Please see note 6. This wording requires alteration in each yellow box if this is to be duplicated on page 73.	Thank you for your comment. The box has now been formatted to appear on each page.
65	SH	Resuscitation Council (UK)	59	FULL	5.3.3.1	80 last line	Punctuation error	Thank you for your comment.
66	SH	Resuscitation Council (UK)	60	FULL	6.1	83 lines 7 and 10	<p>We think that you mean '...advance treatment directive' and 'advance care plan'.</p> <p>We suggest using the accepted terms that are relevant to the NHS and to the law in England and Wales. An Advance Decision to Refuse Treatment (ADRT) is defined in the Mental Capacity Act 2005. An Advance Care Plan is a recognised tool within the NHS for recording a person's anticipatory decisions and wishes, especially as they approach the end-of-life.</p> <p>Both are relevant only when the person concerned has lost capacity to participate in decisions about their care and treatment. Since you make no reference to capacity or its assessment the 'blanket' recommendation that you make here is not correct. Before starting any treatment for a person with capacity, the first priority is to discuss that treatment with the person and gain their consent to starting it, regardless of any advance plans or decisions that they had recorded previously.</p>	Thank you for your comment. We have now cross referred to the Patient experiences in adult NHS services guideline (CG138) recommendations on consent and capacity.

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67	SH	Resuscitation Council (UK)	61	FULL	6.3.4 Recommendation 11	108, 109, 110 Recommendation 11	Please see note 16.	Thank you for your comment. We think that the page and line numbers you are quoting are incorrect, however we assume that you are identifying the same issue in the FULL version of the guideline that you identified in the NICE version. Hopefully our response to your earlier comment applies here.
68	SH	Resuscitation Council (UK)	62	FULL and NICE	6.5	121 title, line 4, line 10, table 37 etc etc	Whilst the word 'inotropes' is used as a colloquial term among healthcare professionals in some settings it would be more appropriate for a clinical guideline from a national organisation to refer to 'Positive inotropic agents'. This will apply also to similar wording elsewhere in the Full and NICE versions.	Thank you for your comment. We believe the term 'inotropes' is clear. We have added 'positive' in the glossary for clarification.
69	SH	Resuscitation Council (UK)	63	FULL	Table 37	122	The definition of MACE is not restricted to the incidence of new myocardial infarction.	Thank you for your comment. We have removed '(incidence of new myocardial infarction).'
70	SH	Resuscitation Council (UK)	64	FULL	6.5.3.1	135 lines 37 and 38	'...moist râles in the lung gallop' is clearly incorrect wording. We think that you are referring to ' moist râles in the lungs ' or ' a gallop rhythm ' as distinct, separate examples.	Thank you for your comment. This has now been corrected.
71	SH	Resuscitation Council (UK)	65	FULL	6.5.3.1	136 line 11	...regard... NOT ...regards...	Thank you for your comment. This has now been corrected.
72	SH	Resuscitation Council (UK)	66	FULL	6.5.3.1	137 line 31	We suggest deleting 'both' to avoid potentially confused meaning..	Thank you for your comment. 'Both' has now been removed.
74	SH	Resuscitation Council (UK)	68	FULL	7.1	140 line 3	The first sentence does not say what you intend. 'Non-invasive ventilation is a potential replacement of invasive ventilation to assist some patients 3 with respiratory distress' implies that NIV is used to replace invasive ventilation when the latter has been used first. We think that you intended to say that NIV is a potential alternative to invasive ventilation...	Thank you for your comment. We have amended this.
75	SH	Resuscitation Council (UK)	69	FULL	7.2	Title and text	You have introduced the term 'Mechanical ventilation' having previously compared NIV and 'invasive ventilation'. NIV is inevitably	Thank you for your comment. We have changed this to 'invasive' ventilation, rather than 'mechanical'.

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							'mechanical', since it uses a machine, so the new tem is unhelpful and potentially confusing. We suggest using the terms 'Non-invasive ventilation' and 'Invasive ventilation' (suitably defined) throughout. Alternatively use 'invasive mechanical ventilation' as you have done in recommendation 20. Consistent use of terms throughout both documents is very important.	
76	SH	Resuscitation Council (UK)	70	FULL	7.2.3.1	164-165	Repeated use of the phrase '...comprising of ** patients...' is not correct English. The studies 'comprised ** patients' or perhaps better still 'included ** patients'. If the same error has been made elsewhere in the documents it should be corrected.	Thank you for your comment. This has now been corrected.
77	SH	Resuscitation Council (UK)	71	FULL	7.2.4	166 lines 1 and 2	Please see note 60.	Thank you for your comment. We think that the page and line numbers you are quoting are incorrect, however we assume that you are identifying the same issue in the FULL version of the guideline that you identified in the NICE version. Hopefully our response to your earlier comment applies here.
78	SH	Resuscitation Council (UK)	72	FULL	8.1.3	199 lines 1-3	'Moderate quality evidence from one RCT (N=363) showed higher rates of beta-blocker treatment at 60 days for people who were prescribed beta-blockers whilst in hospital to patients who started beta-blocker therapy after discharge' does not make sense. That is NOT what the study showed. What you are trying to say is 'People who were prescribed a beta blocker whilst in hospital were more likely than those whose prescription was deferred until after discharge to be taking a beta blocker 60 days after discharge.' The main reason for this will have been that those whose prescription was deferred did not get started or re-started on beta-blocker therapy after discharge, not that they started it after discharge and then stopped it again.	Thank you for your comment. We have amended this using your wording to clarify this point.

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79	SH	Resuscitation Council (UK)	73	FULL	8.1.4	199 Recomm endation 23	Please see note 7. This is where individualised assessment and treatment is crucial to high-quality care rather than blindly following a guideline that considers either continuing or stopping a beta blocker, but pays almost no attention to determination of the most effective dose on a day-to-day basis in the context of the physiological circumstance of the individual. Dose adjustment is mentioned as an option in small print under 'Other considerations'. The majority of people will not read this and if they are think that by following the main recommendations in this guideline they will be practising medicine to a high standard they will be mistaken.	Thank you for your comment. The evidence reviewed was only on continuing or stopping beta blockers. Although dose reduction was discussed, the evidence was not searched for and therefore it was not possible to make a recommendation about dose adjustment of beta blockers.
80	SH	Resuscitation Council (UK)	74	FULL	8.1.4 Other consider ations	200	We think that you mean ' Current UK practice varies '.	Thank you for your comment. This has now been corrected.
81	SH	Resuscitation Council (UK)	75	FULL	8.2 8.2.3.4 8.2.4	201-202 Title. Also lines 13, 18, 21 and later text. 206 Table 73 210 line 33 211 line 1 211 Recomm endation 27	Please see note 9. MRA is an inappropriate abbreviation as the term that it abbreviates is pharmacological nonsense.	Thank you for your comment. Mineralocorticoid receptor antagonist (MRA) is commonly used, and is a familiar term to generalists
82	SH	Resuscitation Council (UK)	76	FULL	8.2	201 line 4	There is a strong evidence base...	Thank you for your comment. This has now been corrected.

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83	SH	Resuscitation Council (UK)	77	FULL	8.2	201 lines 8-9	It is not the pharmacological agents that 'need to be introduced'. It is the patient who needs the pharmacological agents to be introduced!	Thank you for your comment. We believe the sentences are clear.
84	SH	Resuscitation Council (UK)	78	FULL	8.2.4	211 Recommendation 26	Please see earlier note. Offer an angiotensin-converting enzyme inhibitor during hospital admission to people with acute heart failure and reduced left ventricular ejection fraction.	Thank you for your comment. We have amended this: 'Offer an angiotensin-converting enzyme inhibitor during hospital admission to people with acute heart failure and reduced left ventricular ejection fraction.'
85	SH	Resuscitation Council (UK)	79	FULL	9.1.4	233	The GDG was aware...	Thank you for your comment. This has now been corrected.
86	SH	Resuscitation Council (UK)	80	FULL	9.1.4	233-234	This sentence does not make sense and requires revision: 'The GDG noted the existing guidance on coronary revascularisation provided in NICE Chronic Heart Failure guideline (CG108) is applicable to the acute population and agreed to reference should be made to this guideline.'	Thank you for your comment. This has now been corrected.
87	SH	Resuscitation Council (UK)	81	FULL	Table 82	234 line 20	As noted earlier, MACE and myocardial infarction are not the same thing.	Thank you for your comment. We have removed '(myocardial infarction).
88	SH	Resuscitation Council (UK)	82	FULL	9.2.4	246 Recommendation 31	Please see note 21: 'Consider surgical mitral valve repair or replacement for people with heart failure assessed as suitable for surgery' implies that this should be done for all people with heart failure, when what you mean to say is that this should be done for those in whom mitral valve disease is a major contributing cause of their heart failure.	Thank you for your comment. We have now amended the recommendation.
89	SH	Resuscitation Council (UK)	83	FULL	10	248	There is a range...	Thank you for your comment. This has now been corrected.
90	SH	Resuscitation Council (UK)	84	FULL	10	248 line 8 line 11	...there are now several different... or ...there is now a number of different... similar incorrect wording	Thank you for your comment. This has now been corrected.
91	SH	Resuscitation Council (UK)	85	FULL	10	248 lines 21-23	The review question is so badly worded that it does not make sense.	Thank you for your comment. We have reworded the question to state: For people with acute heart failure which, of the following,

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								is the most clinically / cost effective: (1) intra aortic balloon counterpulsation, (2) left ventricular assist devices or (3) medical care alone.
92	SH	Resuscitation Council (UK)	86	FULL	10	248 line 31	Evidence from these is summarised...	Thank you for your comment. This has now been corrected.
93	SH	Resuscitation Council (UK)	87	FULL	10.1.4	265, 266, 267 Recommendation 32	Please see note 22.	Thank you for your comment. We think that the page and line numbers you are quoting are incorrect, however we assume that you are identifying the same issue in the FULL version of the guideline that you identified in the NICE version. Hopefully our response to your earlier comment applies here.
94	SH	Resuscitation Council (UK)	88	FULL	11.1.4	285 Recommendations	Please see notes 4, 23, 48: 33. All hospitals admitting people with suspected acute heart failure should: <ol style="list-style-type: none"> a. provide a specialist heart failure service, based on a cardiology ward and providing outreach services. b. ensure that all people being admitted to hospital with suspected acute heart failure have early and continuing input from a dedicated specialist heart failure team. c. plan the following for people with acute heart failure in line with Chronic heart failure (NICE clinical guideline 108): <ul style="list-style-type: none"> • discharge from hospital after the acute phase and • subsequent management in primary care including ongoing monitoring and care provided by the multidisciplinary team and • information and communication about their condition, its treatment and prognosis. d. ensure that a follow-up clinical 	Thank you for your comment but as these are covering very different aspects of organisation of care, they should remain as separate recommendations.

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							assessment is undertaken by a member of the multidisciplinary heart failure team within 2 weeks of the person being discharged from hospital.	
95	SH	Resuscitation Council (UK)	89	FULL	Glossary		The term 'Coronary heart disease' is listed out of alphabetical order. The definition that you have used is the definition of Coronary artery disease. 'Coronary heart disease' is a 'fudge' term developed by people who wanted to lump coronary artery disease and resulting ischaemic heart disease into a single name.	Thank you for your comment. We have corrected the order in the glossary. We have deleted the term 'Coronary heart disease' from the glossary as it is not used in the guideline.
96	SH	Resuscitation Council (UK)	90	FULL	Glossary		Level 2 care not Levels 2 care	Thank you for your comment. This has been corrected.
97	SH	Resuscitation Council (UK)	91	FULL	Glossary		Several entries are not in alphabetical order, including Myocardial infarction, Myocardial ischaemia, ISWT, Mechanical ventilation.	Thank you for your comment. We have corrected the order in the glossary.
98	SH	Resuscitation Council (UK)	92	FULL	General		Despite using an incorrect term (' Chronic heart failure guideline (CG108) ') instead of Mineralocorticosteroid antagonist or Mineralocorticosteroid receptor blocker, this class of drugs has not been included in the glossary. However the definitions, for example, of beta blockers and ACEIs are not definitions of these terms but are simple statements of what conditions these drugs may be used to treat.	Thank you for your comment. We have now added this to the glossary. The glossary is intended to inform the lay reader; therefore sometimes the statements are descriptive rather than definitions. Mineralocorticoid receptor antagonist (MRA) is commonly used, and is a familiar term to generalists.
99	SH	Resuscitation Council (UK)	93	FULL	Glossary		Your definition of 'Inotrope' is actually a definition of a positive inotrope. Please see note 62.	Thank you for your comment. We have added '(positive) inotrope' to the glossary.
100	SH	Resuscitation Council (UK)	94	NICE + equivalent sections of FULL	1.2 1.3	10–12	The guideline should emphasise the importance of early correction of abnormalities such as hypokalaemia, that otherwise will leave the person at risk of cardiac arrest and sudden death.	Thank you for your comment. The specific management of hypokalaemia was not prioritised in the scope. This is covered in the CHF guideline.

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10 1	SH	Resuscitation Council (UK)	95	NICE + equiv alent secti ons of FULL	1.2 1.3	10–12	The guideline should emphasise the importance of immediate correction of abnormalities that may have contributed to the development of acute heart failure, for example reduction of increased salt intake, cessation of a non-steroidal anti-inflammatory drug.	Thank you for your comment. This is outside the scope of this guideline.
10 2	SH	Resuscitation Council (UK)	96	NICE + equiv alent secti ons of FULL	1.4	12–13	The guideline should emphasise the importance of correction after immediate stabilisation of abnormalities that may have contributed to the development of acute heart failure, for example correction of anaemia or hyperthyroidism.	Thank you for your comment. These issues are covered in the Chronic heart failure guideline (CG108) .
10 3	SH	Resuscitation Council (UK)	97	NICE + equiv alent secti ons of FULL	1.1 1.3	10–12	The guideline should emphasise the importance of identifying those people in whom acute HF is due to acute ST-segment-elevation myocardial infarction. They need immediate treatment of the heart failure to allow them to be able to lie supine and proceed to immediate primary percutaneous coronary intervention (with due cross-reference to the relevant CG). If that is not achievable fibrinolytic therapy should be considered.	Thank you for your comment. The specifics of heart failure management in the context of acute myocardial infarction were beyond the remit of this guideline.
10 4	SH	South West Yorkshire Partnership NHS Foundation Trust	1	Full	General	General	Our comments are as follows:- The document appears to be very comprehensive, the only section that refers to our service is around referral out for continuing care, which is good. There is nothing additional that I wish to add.	Thank you for your comment.
10 5	SH	NHS England	1	FULL	4.2.16	42 & 43	I welcome this guideline and the good work of the GDG in producing an excellent document.	Thank you for your comment. Our use of the word 'consider' is consistent with the NICE

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				4.3.18	<p>Particularly I welcome the emphasis on access to specialist care which, if introduced more widely, could greatly improve the care of patients with acute heart failure.</p> <p>The guideline appropriately recognises the importance of echocardiography (so important for the purpose of correct diagnosis and optimal management) but makes it a “consider” recommendation rather than stronger. I understand that this will probably reflect the lack of ‘NICE-standard’ evidence regarding the time scale over which echocardiography should be offered, but this could have an important consequence from a service delivery perspective.</p> <p>Clinicians would argue that early/immediate access to echocardiography is synonymous with ‘specialist care’ and making such a ‘weak’ statement regarding echocardiography (“within 48 hours”) undermines the emphasis on specialist care. Also, hospitals which choose not to fund adequate echocardiography provision could claim to be satisfying NICE’s recommendation with regards to specialist care, whilst in reality not providing their specialist heart failure teams with the means to provide a clinically acceptable service. Surely if echocardiography is felt to be important (acknowledged by the guideline) why would one not recommend that this should be undertaken as soon as possible, since this investigation is so crucial for the management of people who are often severely unwell, with high mortality rates? If one considered that someone might have renal failure one would not recommend blood chemistry analysis ‘within 48 hours’ one</p>	<p>guide on the wording of recommendations. (please see NICE version of the guideline for further information).</p> <p>We empathise with your point regarding early/immediate access to echocardiography. The GDG discussed this issue at length and wished to make a more robust recommendation but we did not have the evidence to state that echocardiography should be performed immediately in all cases. We did specify in the Recommendations and link to evidence circumstances where echocardiography should be immediate. Our recommendation does not prevent earlier echocardiography. When implemented this will lead to earlier echocardiography than is currently provided.</p>
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							<p>would say this should be when the diagnosis is first considered.</p> <p>As currently worded, a patient admitted on a Saturday morning could wait over the whole weekend to have a vital diagnostic test. This would seem at great variance with the emphasis on 7 day working and provision of emergency care 24x7. I wonder if the GDG would consider changing the recommendation to reflect the need for urgent access to echocardiography, perhaps by removing the 48 hour time scale (which could encourage complacency) and stating that “access to echocardiography should be available 24x7” or “at any time when clinically felt required for patient care”.. or something similar? I am worried that the time scale “within 48 hours” will be latched upon by providers to justify inadequate provision of acute heart failure services, whereas its presence in the guideline, as far as I can see, is simply the result of a PICO question which sought to see if there was published evidence about the somewhat arbitrary time scale chosen for analysis.</p> <p>I should stress that I think the document overall is excellent, but would welcome further consideration regarding the issue of the need for acute echocardiography.</p>	
106	SH	RCGP	1	Full	1.1.3	10	<p>Consideration to include some additional information about interpreting BNP serum natriuretic peptides (B-type natriuretic peptide [BNP] or N-terminal pro-B-type natriuretic peptide [NT-proBNP]) to rule out the diagnosis of heart failure. For instance in patients with hypertension treated with an ACE and/or</p>	<p>Thank you for your comment. We have added this to the Recommendations and link to evidence for natriuretic peptides.</p>

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							diuretic may reduce levels. Severely obese patients may increase levels (MH)	
107	SH	RCGP	2	Full	1.7.1	8	It is important to have rapid access to specialist heart failure clinics and echocardiology in emergency ambulatory care to reduce hospital admissions (MH)	Thank you for your comment. We agree with the importance of early outpatient access as outlined by Chronic heart failure guideline (CG108) but this guideline is focused on acute heart failure and reflects the available evidence and needs of AHF patients who require admission
108	SH	RCGP	3	NICE	General	General	The guidelines refer to the acute management of individuals admitted to hospital and seem appropriate and relevant. From a General Practice perspective we value timely discharge information which includes medication update, arrangements made in the community for follow up and clear information provided to the patient. The availability of Community based heart failure specialist nurses as part of the MDT may be patchy. (IR)	Thank you for your comment.
109	SH	Novartis Pharmaceuticals	1	Full	6.4.4	120	To reduce ambiguity, it would be useful to define within the guidance severe hypertension	Thank you for your comment. The GDG's intention was to recommend monitoring of blood pressure rather than when nitrates should be used. Severe hypertension has not been defined as it is given as an example only.
110	SH	Novartis Pharmaceuticals	2	Full	6.4.4	121	To better define the appropriate monitoring that is required when Nitrates are used	Thank you for your comment. We specify level 2 care in the recommendation.
111	SH	Novartis Pharmaceuticals	3	Full	5.1	general	To include/mention NT-proBNP test as an alternative to BNP test at baseline & discharge (to see trend in NT-proBNP)	Thank you for your comment. This was addressed in the CHF guideline. The recommendations clearly specify that either can be used at baseline, further natriuretic peptide testing is covered in the CHF guideline.
112	SH	Novartis Pharmaceuticals	4	Full	5.1	general	To get guidance of what the criteria are for intensifying treatments. To get guidance on how we should measure the severity of worsening of	Thank you for your comment. Monitoring of heart failure was covered in the CHF guideline.

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							heart failure and to how should we define in-hospital worsening of heart failure. What are the parameters that should be used to monitor in-hospital worsening of heart failure?	
113	SH	Novartis Pharmaceuticals	5	Full	4.16	general	To highlight that treatment should be started asap after diagnoses	Thank you for your comment. Time frames have been specified where appropriate. For example ACEi, MRA and beta blockers are started during hospital admission.
114	SH	Novartis Pharmaceuticals	6	Full	4.1	41	The algorithm seems disconnected. To make it clear that BNP test is for de nouveau patients	Thank you for your comment. The relevant recommendations and the algorithm have been changed to ensure clarity when they are referring to new suspected heart failure patients.
115	SH	Novartis Pharmaceuticals	7	FULL	general	general	Very well written document and overall Novartis is in agreement with the recommendations in the AHF clinical guideline	Thank you for your comment.
116	SH	Pumping Marvellous Foundation	1	NICE	1.1.2	10	Does this refer to the presentation in primary or secondary care considering the up to 48hrs for an ECHO. As BNP is an indicator then the evidence states that the quicker the diagnosis the better outcomes therefore shouldn't BNP always be the primary tests to do due to the availability of ECHO's? Why can't we use BNP in the acute setting as it could be used as an identifier of severity of failure?	Thank you for your comment. This particular guideline is referring to use in an acute care setting. Use in a primary care setting is covered in the Chronic heart failure guideline (CG108) .
117	SH	Pumping Marvellous Foundation	2	NICE	1.1.5	10	Echo should be within 24 hours, faster to diagnose? Although we know that from the HF audit there are still a significant number of patients who are treated on general wards where there access to specialist cardiac services is hampered and this increases the mortality vrs the population that are treated on cardiology wards with access to the right services at the right time. We believe this is one of those areas where the guideline needs to be appropriate to the care rather than massaged into hospital data reporting.	Thank you for your comment. We sympathise with your point regarding early/immediate access to echocardiography. The GDG discussed this issue at length but we did not have the evidence to state that echocardiography should be performed immediately in all cases. We did specify in the Recommendations and link to evidence circumstances where echocardiography should be immediate. Our recommendation does not prevent earlier echocardiography. When implemented this will lead to earlier

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								echocardiography than is currently provided.
118	SH	Pumping Marvellous Foundation	3	NICE	1.2.2	11	Surely we should include a statement in this point about dyspnoea and opiates and the use of oxygen therapy as this has a significant impact on the QOL of people with Acute Heart Failure?	Thank you for your comment. In this particular review we did not look for evidence comparing oxygen therapy to opiates to reduce dyspnoea and distress. Therefore the GDG did not comment on this particular issue.
119	SH	Pumping Marvellous Foundation	4	NICE	1.2.4	11	How do you know poor adherence to diuretic therapy, how do you evaluate these concerns. We feel this is an exceptional sweeping statement considering other assumptions around poor adherence to therapeutic drug therapy	Thank you for your comment. The GDG were concerned about advocating a dose increase if the person had not been adhering to diuretic therapy.
120	SH	Pumping Marvellous Foundation	5	NICE	1.2.8	11	BP monitored by “no less” than a level 2.	Thank you for your comment.
121	SH	Pumping Marvellous Foundation	6	NICE	1.3.5	12	Concerns would be about the availability of ultrafiltration and it’s acceptance as a solution to diuretic resistance. Therefore the question is around patient access to ultrafiltration and the hurdles that are thrown up by this type of therapy and it’s access	Thank you for your comment. Provision of services is determined locally and is beyond the remit of this guideline.
122	SH	Pumping Marvellous Foundation	7	NICE	1.4.4	13	As intolerance can lead to severe QOL issues then why aren’t we mentioning ARB’s as an alternative to patients who do have intolerance?	Thank you for your comment. ARB’s were not within the scope of this guideline. This is covered by Chronic heart failure guideline (CG108) .
123	SH	Pumping Marvellous Foundation	8	NICE	1.4.3	12	The word “typically” is too vague is should be replaced with at least 48hrs.	Thank you for your comment. The GDG discussed this at length and ‘typically’ deliberately gives necessary flexibility to the clinician.
124	SH	Pumping Marvellous Foundation	9	NICE	1.6.1	13	The use of an LVAD needs to be communicated to the patient & relatives / carers in a way that is clear and not clinical as this is a one way ticket.	Thank you for your comment. Discussion with the patient is implicit in a number of recommendations, We have now cross referred to the Patient experiences in adult NHS services guideline (CG138) recommendations on consent and capacity.
12	SH	Pumping	10	NICE	1.7.1	14	Does the word outreach mean an outpatient	Thank you for your comment.

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5		Marvellous Foundation					service based in the acute setting or does it mean community based HF Specialist Nurses? QOL of sufferers and their families would be greatly improved with robust discharges to HF specialist nurses in the community	This is referring to the in hospital team. We have added the word inpatient to the recommendation to provide clarification.
12 6	SH	Pumping Marvellous Foundation	11	NICE	1.7.2	14	There is no mention of the guidelines around discharge information, rehabilitation etc. etc. sometimes and unfortunately too often sometimes you need to spell it out to people. This area is to open to interpretation.	Thank you for your comment. It is beyond the remit of this guideline to provide recommendations in these areas.
12 7	SH	Pumping Marvellous Foundation	12	NICE	1.7.3	14	Discharge and management far too vague – discharge should only happen when the patient fully understands and can assist (where able) with their own recovery. These guidelines don't appear to be very clear on follow up and surely this could lead to readmission and mortality as well as a reduced QOL before physically and mentally?	Thank you for your comment. These issues are covered in more detail in the Chronic heart failure guideline (CG108) , to which we cross refer.
12 8	SH	Pumping Marvellous Foundation	13	NICE	1.7.4	14	Follow up after discharge should be much sooner than 2 weeks, perhaps 4-5 days or at the most 1 week. Two weeks to a newly diagnosed patient is far too long especially when you have just been told you have heart failure which as you know carries a tariff that has a worse prognosis than all common cancers excluding lung cancer. Reducing hospital readmission rates as everybody is aware would reduce the economic burden, operational manpower strain considering the average stay of a HF patient. There is also no mention of a discharge plan, in other words patient, carer and family information. What happened to self-management?	Thank you for your comment. Within two weeks does not preclude earlier follow-up.
12 9	SH	Pumping Marvellous Foundation	14	NICE	2.1	General	Guidelines referring to trials etc. needs to be clearer and also perhaps monitored more closely – surely alternative therapies should be available where required	Thank you for your comment. The research recommendations are intended to highlight areas where we identified that further research may be required.
13	SH	Pumping	15	NICE	General	General	This draft guideline is clearly clinically focussed	Thank you for your comment. An 'information

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0		Marvellous Foundation					which to “our lay person” opinion is great however and it is a big however we pushed this document out to our patient educators who in their own right are our “expert patients” and add value directly back to the patient. They are all heart failure patients who have had acute heart failure. Their opinion is based on their own journey but more importantly the journey of sufferers and their families whom they speak to. Our patient organisation would describe them as well rounded, competent and opinionated. They welcomed this draft guideline. In fact they were looking forward to it however everyone came up with the same conclusion that the guideline is not patient focussed as it doesn’t go far enough to as a guideline can to put in place a basic level of guidance with the clinical guidance on what happens to these patients when they get discharged and sent home. This document does not go far enough to close the gap between the disparity of care between cancer and heart failure. It is not holistic and still sees 100% of the solution at the clinician’s door when there are glaring gaps in “the preparation of the patient and carers for managing a long term condition such as heart failure”. As we say “Awareness is power” and that applies most keenly in the preparation and packaging up of the patient for entrance into the world outside of the acute setting or after a diagnosis of heart failure by a GP.	for the public’ version of this guideline will be published alongside this guideline.
13 1	SH	Department of Health	1	Full	General	General	Thank you for the opportunity to comment on the draft for the above clinical guideline. I wish to confirm that the Department of Health has no substantive comments to make, regarding this consultation	Thank you for your comment.
13	SH	NHS	1	Full	General	General	We welcome the guidance and have no	Thank you for your comment.

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2		Choices-Digital Assessment Service					comments on its content as part of the consultation	
133	SH	British Society for Heart Failure	1	Full	General	General	Congratulations (and thanks to the participants on the panel) for a well thought out and well written guideline in an increasingly important area. Given the lack of evidence and trial data in this area, the recommendations for future research is an excellent idea.	Thank you for your comment.
134	SH	British Society for Heart Failure	2	Full	General	General	<p>The guideline is somewhat inconsistent in how it refers to Cardiac Care Units. For example on page 268 the reference is to coronary (cardiac) care units (as follows):</p> <p>"Patients with acute heart failure are usually admitted to secondary care facilities via the accident and 3 emergency department. Frequently, patients with acute pulmonary oedema are admitted to 4 intensive care units, high dependency units or the coronary (cardiac) care units"</p> <p>but elsewhere the guideline uses the term Cardiac Care unit which in 2014 is the preferred term and endorsed by the British Cardiovascular Society, in recognition of the fact that many patients admitted here do not have a coronary problem but a cardiac problem, such as acute heart failure. Might we suggest consistent use of Cardiac Care Unit.</p>	Thank you for your comment. This has been amended so that the term 'Cardiac Care Units' is used consistently throughout the guideline.
135	SH	British Society for Heart Failure	3	Full	11	Page 268 onwards	<p>Organisation of care</p> <p>A recommendation could be made to admit all patients with heart failure in areas with appropriate experience in heart failure care and treatment (either a cardiology ward or another dedicated area, with outreach to those whose primary condition is not heart failure).</p>	Thank you for your comment. We believe this is covered by recommendations 33 and 34.

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136	SH	British Society for Heart Failure	4	Full	Key Priorities for Implementation	42	We strongly support the Key priorities for Implementation which follow a logical order and will likely improve care, provided they do not unleash indiscriminate requesting of natriuretic peptides.	Thank you for your comment.
137	SH	British Society for Heart Failure	5	Full	4.3	Pages 43-45	The full list of recommendations could be improved by making it clear that for most patients who have had an acute HF admission that the surgical intervention should, with rare exceptions, be considered subsequent to their discharge home when stable. The literature as we understand does not reflect acute intervention (during an index admission for HF) yet the current sequence suggests this is what the guideline is recommending. Thus 27 says "Offer a mineralocorticoid receptor antagonist to people with acute HF and reduced left ventricular function during a hospital admission" and 28 then reads "Offer surgical aortic valve replacement to people with heart failure due to severe aortic stenosis assessed as suitable for surgery". It would be helpful to make clearer distinctions between 27 and recommendations 28-31. (This does not preclude inpatient referral when clinically indicated.)	Thank you for your comment. We have added the headings to the full list of recommendations in the full guideline.
138	SH	British Society for Heart Failure	6	Full	4.3	43-45	We presume the order of the recommendations reflects the order in which the GDG looked at the questions within the scope but it seems rather counter-intuitive for points 32 to 34 to appear so late in the guidance - almost as an afterthought. Could the recommendations around organisation of care including the input from the specialist team, and care on a cardiology ward not be listed earlier?	Thank you for your comment. We have added the headings to the full list of recommendations in the full guideline to provide clarity.
13	SH	British	7	Full	4.3	43-45	Recommendations 35/36. We were pleased to	Thank you for your comment.

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9		Society for Heart Failure					see cross-reference to the Chronic HF Quality standard and the need to ensure community care and primary care is well integrated with secondary care. However these last two recommendations might be interpreted (by commissioners) as suggesting that there should be no hospital based cardiology follow up, yet this is essential for a proportion of patients, and the benefit has been shown very clearly in earlier National HF Audit reports. Could the wording of recommendations 35 please be tempered so that this is explicit?	Recommendations 35 and 36 are applicable to all settings. We think it is clear that recommendation 36 is about specialist review.
140	SH	British Society for Heart Failure	8	Full	Glossary 13	Glossary	Under the Glossary Level 2 care is listed (except there appears to be a typo and it reads Levels 2 care). However there is no clarity of what makes care Level 2 - could this be explicit please (here or elsewhere)?	Thank you for your comment. The definition is from Intensive Care Society, Levels of Critical Care for Adult Patients (2009). We have added this to the Recommendations and link to evidence sections for the recommendations where level 2 care is specified.
141	SH	British Society for Heart Failure	9	Full	Scope What This Guideline Covers	Scope Page 14 What This guideline covers – management of acute HF And related Section 11: P268 onwards	The scope purports to address the role of specialist management units (p14). However, (p 268 onwards) although it states the baseline case is 50% on a cardiac unit and 50% elsewhere, which we presume is reference to data from the National HF Audit, there is no recommendation around the optimal proportion of patients that should be cared for on a cardiology ward, or even a requirement to reach the baseline case where a hospital is not doing so. Given the apparent benefit seen in the National HF audit from the specialist management unit (cardiology ward) it is a missed opportunity. Could NICE not make a stronger statement - a minimum might be to suggest all hospitals deliver to the baseline (50% and 50%) but would NICE not consider suggesting a higher proportion of patients, than baseline, are managed within specialist units? Surely only patients whose co-morbidities	Thank you for your comment. We have added further explanation to the Recommendations and link to evidence . The GDG discussed whether there should be a minimal proportion of heart failure patients who should be cared for on a specialist management unit. There was a lack of clinical evidence in this area and the results of the health economic model sensitivity analysis demonstrated that cost effectiveness was only marginally improved if the proportion on a cardiology ward was increased. Therefore the GDG did not make a recommendation in this area.

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							suggest they would derive greater benefit from care elsewhere should be managed outside the cardiac unit, with input from the specialist team? Without these recommendations there may be little perceived need to change and improve care. (See also comment 3 above)	
14 2	SH	British Society for Heart Failure	10	Full	Guideline summary	Algorithm Page 4	This is not very clear. The natriuretic peptides are being used to rule out HF, not for confirmatory testing. Suggest this is changed. There is “confusion” over which valve should be replaced in critical aortic stenosis – this typo needs to be changed.	Thank you for your comment. This has now been changed to ‘further
14 3	SH	Whittington Health	1	Full	4.2	42	We fully support the key priorities for implementation. In particular, we believe it is important for the guidelines to emphasize the need for early and continued heart failure specialist input for all patients, as there is robust evidence that this has a lasting effect on improved outcomes.	Thank you for your comment.
14 4	SH	Whittington Health	2	Full	4.3	43	Recommendation 3. It is important that the guidance leads to improved care for patients with acute heart failure without causing indiscriminate use of BNP. We have some reservations with using a low BNP cut-off for echocardiography in new patients with acute heart failure, but understand that BNP is recommended in this context as a rule out test (which we broadly support).	Thank you for your comment.
14 5	SH	Whittington Health	3	Full	4.3	43	Recommendation 5. We believe that it is important that all new patients with acute heart failure have early echocardiography (within 48 hours) as tailored management is dependent on detecting the presence/absence of left ventricular systolic disease and/or valve or other abnormalities. In patients with known heart failure and recent echocardiography, repeat echocardiography may sometimes be less relevant. It may be useful for the guidelines	Thank you for your comment. This concern is covered in the Recommendations and link to evidence for recommendation 5. The relevant recommendations and the algorithm have been changed to ensure clarity when they are referring to new suspected heart failure patients.

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							to distinguish between these two scenarios.	
14 6	SH	Whittington Health	4	Full	4.3	45	Recommendations 33 and 34. We agree these are very important recommendations that, if implemented, will likely significantly improve care and outcomes for patients with heart failure. As such, we would prefer that these recommendations appear near the beginning of the list to emphasise their importance.	Thank you for your comment. We have now moved the 'Organisation of care' chapter to the beginning of the guideline.
14 7	SH	Whittington Health	5	Full	4.3	44	Recommendations 28, 29, 30 and 31. Not all patients with acute heart failure and significant valve pathologies will require definitive treatment of the valve lesions on the same admission, and these decisions will need to be made in a multi-disciplinary manner. We would prefer that the guidance makes the timescale of these recommendations clearer.	Thank you for your comment. We have now clarified this in the Recommendations and link to evidence.
14 8	SH	Whittington Health	6	Full	4.3	45	Recommendations 35 and 26. It is good that there is cross reference with the NICE Chronic Heart Failure Quality Standards, and we agree that it is crucial to ensure that secondary care is well integrated with primary and community care. However, these two recommendations may be interpreted as suggesting that no hospital-based heart failure follow-up is needed, which would be detrimental to a proportion of patients admitted with acute heart failure. There is evidence, including from the National Heart Failure Audit, that there is clear benefit from specialist heart failure follow-up, wherever it is delivered.	Thank you for your comment. Recommendations 35 and 36 are applicable to all settings. We think it is clear that recommendation 36 is about specialist review.
14 9	SH	Whittington Health	7	Full	11.1.4	287	The guidelines do not make a specific recommendation for the care of patients in specialist management units, e.g. cardiac care unit or (occasionally) high dependency unit or intensive care unit. We feel strongly that most patients will benefit from care in a specialist management unit as this will allow the concentration of appropriate specialists from a	Thank you for your comment. We have added further explanation to the Recommendations and link to evidence. The GDG discussed whether there should be a minimal proportion of heart failure patients who should be cared for on a specialist management unit. There was a lack of clinical evidence in this area and the results of the health economic model

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							number of disciplines, including ward nurses who are competent and experienced in caring for patients with fluid overload and/or gas exchange issues. On a related note, it may be useful to state that the role of ambulatory care units in the management of acute heart failure is not defined due to a lack of evidence base and therefore is not specifically recommended.	sensitivity analysis demonstrated that cost effectiveness was only marginally improved if the proportion on a cardiology ward was increased. Therefore the GDG did not make a recommendation in this area. The role of ambulatory care was not part of the clinical review and the GDG therefore did not specifically comment on this point.
150	SH	Whittington Health	8	Full	4.1	41	We find the algorithm confusing and badly designed. The relevance of the colour coding is not clear. In the text elsewhere in the document, BNP is said to be used as a rule out test (which we support), but in the algorithm BNP is said to be a confirmatory test. Furthermore, BNP is recommended only as a rule out test in suspected new cases of acute heart failure, but the algorithm gives the impression that BNP should be measured in all patients with acute heart failure. There is also a typographical error – “offer surgical mitral valve replacement” in critical aortic stenosis; we assume this meant “surgical aortic valve replacement”.	Thank you for your comment. We have reviewed and revised the algorithm and have removed the colours..
151	SH	Whittington Health	9	Full	General	General	There is inconsistent use of the term “cardiac care unit” in the document – sometimes the term “coronary care unit” is used. We would prefer the consistent use of the term “cardiac care unit”, which is also preferred by the British Cardiovascular Society.	Thank you for your comment. This has been amended so that the term ‘Cardiac Care Units’ is used consistently throughout the guideline.
152	SH	Royal College Nursing	1	Full	General	General	There are no additional comments to submit to inform on the consultation of the above draft guidelines. Thank you for the opportunity to review this document.	Thank you for your comment.
153	SH	Royal College of Physicians	1	Full	General	General	Royal College of Physicians wishes to endorse the response of the British Society for Heart Failure to the above consultation	Thank you for your comment.

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15 4	SH	Northampton General Hospital NHS trust	1	Full	General	General	<p>I hope that you will listen as my criticism is quite general about your approach to this guideline, and comes from a cardiologist who undertakes acute medical takes and is quite aware of the very real problems in the management of acute heart failure, ones which result in many deaths. Ones, unfortunately, that your guideline do not address.</p> <p>The most important issue in the management of acute heart failure is diagnosing it; nothing costs lives like failure to diagnose heart failure promptly, or to diagnose the other very serious conditions that may present like heart failure, or in fact co-present with heart failure (e.g. PE).</p> <p>I was therefore very saddened to see the paucity of discussion on the diagnosis of heart failure in the real world around real DGH patients (clearly trials in other settings may well not be relevant to DGH's - the setting is absolutely vital in altering the pretest probability, as you know) - you discuss BNP, but this issue is now well settled (and to be honest does not really need any more discussion), you mention cardiac ultrasound briefly, you do not discuss physical examination, nor the chest X-ray, or the 12 lead ECG. You do not discuss how co-morbidity impacts on both diagnosis and treatment. You do not discuss how to integrate history, examination, chest x-ray and ECG.</p> <p>Put another way, all the trials of diagnosis of acute heart failure use as the gold standard clinical judgement (sometimes of a committee) - however, this is the clinical judgement of experienced heart failure clinicians (usually in well staffed teaching hospitals), not available to</p>	<p>Thank you for your comment. NICE does not aim to provide textbook discussion of any issues and uses an evidence based approach to cover the key areas that were prioritised in the scope, following consultation with stakeholders. Many of the issues on diagnosis and investigation you have raised are covered in the Chronic heart failure guideline (CG108) to which we have cross referred.</p>
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						<p>most patients who present with acute heart failure in DGH's most of the time. It is in this area (that of the wise and experienced senior heart failure clinicians) that heart failure care is actually currently weakest, and I therefore ask you to share with us the features that constitute this clinical judgement. It is clear that the individual tests you discuss are no substitute for this judgement, and in general we need to further understand how such experienced clinicians diagnose heart failure.</p> <p>Indeed, descending to emotional language for one moment, I implore you, I beg you, to elaborate considerably on the clinical issues surrounding diagnosis. Looking at the length of your guidelines, I suggest the following:</p> <p>1. History - 40 pages on what is relevant to the diagnosis of heart failure (and exclusion of other conditions), what is not relevant, how certain features increase or decrease the chance of heart failure, what features to look for etc. Included in history would be pmh, demographics, alcohol etc etc. All of these are relevant to the pre-test probability of heart failure, please tell us in what way.</p> <p>2. Physical examination - 30 pages. This is widely felt to be helpful, but in what way? What matters, what does not? Does the venous pressure matter? Is a third heart sound important? When does oedema mean heart failure? When does oedema not mean heart failure? Can oedema without grossly raised BNP still be due to heart failure? Can people listen to the third heart sound (or fourth) in a busy A and E department? Does the third heart</p>	
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						<p>sound matter? How sensitive are bibasal inspiratory crepitations etc etc?</p> <p>3. ECG - 20-30 pages. You make reference to the ECG, but then damm it into insignificance by not talking about it. The ECG can be very helpful in both diagnosing heart failure, pointing towards the cause and perhaps raising the possibility of other causes (e.g. PE, sinus tachycardia, normal ECG otherwise). Tell us exactly how, please. Can you have heart failure with a normal ECG? What do small complexes mean? etc etc</p> <p>4. Chest X-Ray, an enormous area. 30 pages. You scarcely mention this, but I don't know why not? It can be helpful, but there are pitfalls. Illuminate us on this area.</p> <p>5. Echo - 50 pages. You make reference to this, as if there is any way for the vast majority of patients this can diagnose heart failure. Sometimes - rarely - it is so abnormal that heart failure is almost inevitable. This is rare. Usually, the echo helps but there are many pitfalls. Tell us about them. Most hospitals have an echo service, but it is up to the referring clinicians to interpret the report. Tell us how.</p> <p>Of course, the history, exam, ECG/CXR and cardiac ultrasound are all helpful, but the sum of there data is much more powerful than any one individual result. Tell us how to integrate the data. This will take you about 40 pages. You will also have to tell us about the differential diagnosis, and how to work our way through this. Another 40 pages</p>	
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						<p>I have attached an article written many years ago, which you may find helpful in thinking about diagnosis. The bits of relevance are right at the end, steps 1 to 6. This is by far the best article I have seen on diagnosis, and I hope that you can (at length) convey what is it that Hurst is trying to teach us. I should add that most clinicians would benefit from reading this article, it surely is the clearest voice as to what constitutes excellence in medicine.</p> <p>I am very keen that you alter your approach to heart failure to make it useful to practising clinicians in district hospitals, unlike the present document. If you do not extend the guidelines as I suggest, then I urge you to be honest upfront, and state the guidelines are a partial and not a complete guide to heart failure, and that clinicians should make reference to other sources of information when managing patients with heart failure. You could guide us as to where we should go.</p> <p>I realise that NICE finds criticism very difficult to take, and your usual approach is to ignore the messenger (quite frequent), shoot them (metaphorically, off course, if this is possible) or misinterpret their voice. I know that you are loathe to change and react to external input. Certainly you are much more inclined to listen to the politically powerful, rather than the individual clinician or patient who may be right, and this is sad, just so incredibly sad. I hope that you realise I wish to greatly improve the care of patients with heart failure, to lengthen quality life and the first step is to greatly improve the current guideline.</p>	
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15 5	SH	Central Manchester Foundation Trust	1	Full	General	General	<p>Having performed a systematic review and bivariate meta-analysis on the available literature I found similar results for the sensitivity of BNP and NTproBNP based on the manufacturers recommended cut-off values as are reported here. However, none of the included studies have been performed in the UK setting. I have carried out a small study (105 patients) at this Trust but found that the performance of both forms of the natriuretic peptide had much lower sensitivity for the diagnosis of acute heart failure in dyspnoeic patients when tested against a reference standard of two cardiologists review blinded to the BNP and NTproBNP results. There were significant limitations to my study (size and single centre) but it may also reflect differences in the UK population compared with the other populations studied. For example: underlying aetiology (ischaemic heart disease vs. hypertension); study population differences (larger US studies mainly male patients as from Veterans hospitals). The number and acuity of patients presenting as an emergency with heart failure in the UK appears to be reducing which may be due to universal and improving Primary care management that may be absent in the international setting.</p> <p>I have concerns about advocating the diagnosis and management of this patient population based on a test that has not been validated in the UK setting.</p>	<p>Thank you for your comment. The GDG noted that the majority of studies were not conducted in the UK setting. Many were in settings similar to the UK, for example Western Europe. The studies consistently showed high sensitivity. The GDG were confident that the meta-analysis of over 7000 patients was applicable to the UK population (see Appendix J for further details). This was discussed with the GDG and we added this issue to 'other considerations' in the Linking Evidence to Recommendations table.</p>
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Comments from invited peer reviewer

Order number	Document	Section Number	Page Number	Comments	Developer's Response Please respond to each comment
1	All		General	The guideline is a well-structured logical document that is strongly welcomed to complement CG108 in particular with regard to specialist input and team, use of natriuretic peptide in principle (1.1.2) and optimisation of medication (in principle)	Thank you for your comment.
2	All		General	<p>The issue of communication between hospital and community following readmission with heart failure is widely acknowledged to be an area of concern and missed opportunity. (Following patient feedback a key improvement area in the local AHSN). Although the acute heart failure guidance makes reference to CG108 (AHF recc 1.7.3), CG108 reccs 1.5.2 (1,2,3) are relatively non-specific.</p> <p>Ideally, the obligation on the specialist team should be not only to ensure supervision of inpatient care but to ensure complete communication of actions and investigations at discharge and, furthermore, the optimisation of continuity of care into the community.</p> <p>The GDG is asked to consider whether discharge planning might be included as a KPI.</p>	Thank you for your comment. The guideline cross referred to Chronic heart failure guideline (CG108) for discharge planning.
3	All		General	General reservations which might hinder the practical implementation of the CG in the current environment relate to KPIs re placement of	Thank you for your comment. Implementation issues that are highlighted will be dealt with by the

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				<p>patients (1.7.1), the possibility, based on given thresholds, of high numbers of patients with elevated natriuretic peptides (1.1.2,3) and the advice re both triple therapy commencement and a 48 pre discharge phase (1.4.3) which may be seen to raise length of stay. (Please see below).</p> <p>The point of specialist engagement may need clarification (see comment 10)</p>	NICE implementation team.
4	Both	Recc 1.7.1	286 ff full	<p>It is noted that this recommendation is a key priority for implementation. The wording may be unclear as to whether those admitted, the service or both should be based on a cardiology ward. Review of the evidence-base (full version) indicates that in the majority, if not all, studies (which were observational) patients under the cardiologists were younger and, more often, male. It is noted (page 286 full CG) that quality of evidence was rated as low or very low. It is further noted that the GDG placed "greater weight" on the national heart failure audit which itself was given a "very low" quality rating.</p> <p>Although expert consensus would agree that patients admitted to hospital acutely with heart failure should be cohorted and under the supervision of specialist/multidisciplinary team care, the development group is asked to consider whether the recommendations as they stand are too strongly worded based upon the evidence-base, both to justify the use of a specified cardiology ward (as opposed to cohorting under supervision within the hospital, if possible on a cardiology ward) and as to whether these recommendations are based on sufficient evidence to justify their position as key priorities for implementation.</p>	Thank you for your comment. The recommendations are based on the clinical evidence and the economic model which used highly conservative assumptions therefore the GDG are confident in the strength of the recommendations made.

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5	NICE	Reccs 1.1.1, 1.1.2		It is noted that recommendations 1.1.1. (ECG, chest x-ray and blood tests) precedes recommendation 1.1.2. (the testing of natriuretic peptide) and reference is made to CG108. This may be misleading since CG108 also emphasised that such investigations do not form the basis of a <i>diagnosis</i> of heart failure (see CG108 algorithm) and should not delay natriuretic peptide estimation. The guideline group is therefore asked to consider whether positioning of recommendations 1.1.1 and 1.1.2 should be changed with textual emphasis that a diagnosis of heart failure should not be excluded on the basis of ECG and chest x-ray.	Thank you for your comment. 'In order to establish a diagnosis' has now been removed.
6	Both	Recc 1.1.3	71ff full	<p>Cut-off values are noted but (as with CG108) no reference is made to different cut-offs for different age, although this is increasingly accepted with the use of NT-pro BNP.</p> <p>Furthermore, prior use of medication at the impact heart failure (in this context, diuretic in particular) may influence testing. There is a risk of both under and over estimation of cases. I am aware of the complexities of this discussion (and the need to refer to the evidence base) but note that the lower threshold may challenge specialist and echo support services.</p> <p>The guideline development group is asked to consider whether this should be considered within the wording of the recommendation?</p>	Thank you for your comment. This was discussed when the review protocol was agreed with the GDG. However, the average age did not vary sufficiently between studies to be able to conduct a subgroup analysis. Furthermore studies did not group people according to the medication they were receiving. Therefore no specific recommendations were drawn up. We have added a statement to the Linking Evidence to Recommendations table to highlight this issue.
7	Both	Recc 1.1.5	72 full	It is noted that there is no evidence-base (page 72-73 of full version) with regards to timing of echocardiography. Notwithstanding, a recommendation of 48 hours from the time of	Thank you for your comment. Our reasons are stated in the Recommendations and link to evidence for echocardiography.

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				<p>admission is made and included as a key priority for implementation. Does the evidence-base support the use as a KPI?</p> <p>Furthermore, given the possible demand placed upon services, the guideline development group is asked to consider whether prior echocardiographic evaluation be taken into consideration and if so within what timeframe?</p>	
8	Both	Reccs1.4.2 . 1.4.4, 1.4.5		<p>Timing of medications. The totality of the evidence is noted (full p 187-211) for in hospital beta blockade, ACE inhibition and MRA. It is noted that a strong evidence-base for early initiation of both ACE inhibitor and MRA is lacking, although greater for ACE inhibitor (page 211). It is noted that for both the evidence-base was either low or very low quality. The evidence base for beta blockade is supported by two RCTs with caveats (one each for continuation and commencement - page 188).</p> <p>The guideline development group is asked to consider whether a)</p> <p>in-hospital initiation of all three drugs should be equally recommended; b)</p> <p>in-hospital initiation of all three drugs is safe and indeed should be endorsed given the potential of renal problems with rapid introduction of ACEi and MRA; and the lesser range of EF in which MRA have been studied c)</p> <p>in-hospital initiation of all three drugs is realistic if triple therapy is pursued since constraints on timing risk loss of the optimal combination of ACEi and BB</p> <p>the pivotal component of LVSD care appropriate at a wider range of EF and symptoms than triple therapy; d)</p>	<p>Thank you for your comment.</p> <p>The GDG consider that changes to treatment or introduction of new therapies would be made by the specialist team. The GDG have made a further recommendation on the need to monitor the patient's renal function, electrolytes, heart rate and blood pressure when introducing these treatments.</p> <p>The relevant recommendations have been changed to ensure clarity when they are referring to new suspected heart failure patients.</p>

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				<p>in-hospital initiation of all three drugs can be justified as a key priority for implementation on the basis of the evidence-base for all three.</p> <p>In addition, for the both ACEi and MRA, the recommendations may wish to specify an interval period until post-acute stability before in-hospital commencement can be recommended, given negative findings of a study of early intravenous ACE inhibitor some years ago.</p>	
9	Both	1.4.3		<p>Pre-discharge Stability</p> <p>It is noted that a delay of 48 hours for stability prior to discharge is a key priority for implementation. <i>I was unable to find any supporting documentation within section 8 (Treatment after stabilisation) of the full version to underpin this recommendation and would welcome clarification.</i> I would imagine formal evidence-base may be lacking and whilst the aspiration is understood, the guideline development group is asked to consider whether this is suitable as a key priority for implementation given the absence of evidence. Furthermore, the practicalities of this recommendation require consideration in so far as it seems to be increasingly common practice for patients to be treated acutely in Medical Admissions Unit for 24-48 hours and to be then sent home for outpatient follow up. Although based only on my observations, it seems more common in older patients who improve symptomatically following intravenous diuretics. Such treatment reflects pragmatism in the face of mounting pressures on emergency services and, on the one hand, risks potential prejudice against older patients since this will not allow them access to full specialist</p>	<p>Thank you for your comment. The GDG made this a KPI because they are aware of the pressure to discharge patients from hospital too early. Typically was chosen in order not to be too rigid with recommending a timeframe. We think the recommendation is clear that it covers all people with acute heart failure.</p>

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				input nor to rapid echocardiography and, furthermore, could be seen as prejudicial against older patients. On the other hand, the current recommendations with reference to 48 hour constraints on discharge and on echocardiography both may be at significant variance with current practice since the evidence-base for both 48 hour recommendations is relatively weak. The GDG is asked to consider whether this recommendation is sustainable and in particular, sustainable as a KPI?	
10	Both	1.1.4 and 1.1.5		<p>The meaning of 1.1.5 is unclear in so far as a person with appropriate symptoms/signs and elevated natriuretic peptide has an established diagnosis of heart failure (CG 108 algorithm). The purpose of echocardiography as indicated in 1.1.4 is to “establish the presence or absence of cardiac abnormalities”. It is unclear as to how echocardiography within 48 hours of admission (1.1.5) would “enable early specialist management” since that presumably would be triggered by appropriate symptoms and elevated natriuretic peptide – which is the basis of the economic modelling for specialist care – full p 285?</p> <p>Is it clear in the full guideline as to the point at which the diagnosis of heart failure is reached (and by whom) and the threshold at which specialist involvement becomes necessary?</p> <p>As written could an older person with oedema and raised NP but a “normal” ejection fraction be seen to not require input from the specialist team? Echocardiography might perhaps in this context be better seen as guiding early specialist management as opposed to enabling it?</p>	<p>Thank you for your comment. We have changed ‘enable’ to ‘guide’.</p> <p>Recommendations 1.1.1 and 1.1.2 anticipate specialist involvement when people are suspected of having acute heart failure.</p>

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11	Both	General		It is assumed that a definition of specialist and team is provided (and is the same as CG108?).	Thank you for your comment. This is defined in the glossary and is the same as Chronic heart failure guideline (CG108) .
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Comments on the Health Economic Model

Stakeholder	Description of problem	Description of proposed amendment	Result of amended model or expected impact on the result (if applicable)	Response
Novartis Pharmaceuticals Cycle length: 3-month	<p>The model uses a 3-month cycle without providing justification for this cycle length. This assumption implies no more than 4 hospitalizations in one year, which might not represent the reality. On the other hand, if it is very rare for a HF patient to experience more than 1 hospitalization per year, this assumption would likely overcomplicate the model.</p>	<p>Provide justification of 3-month cycle length by showing that it is very rare that a patient would experience more than 4 hospitalizations due to HF in one year. Monthly cycles may be more appropriate as patients may have 6-7 re-hospitalisations. This could be done by 1) including database analysis of hospitalizations for CHF patients; or 2) including published evidence to justify this assumption.</p> <p>Ideally, the model could be designed to user-defined cycle length to improve flexibility.</p> <p>Including half-cycle correction is</p>	<p>If a large number of patients were likely to experience more than 4 hospitalizations annually, the model would underestimate the benefit of NP test or special management.</p>	<p>Thank you for your comment.</p> <p>The cycle length is chosen to accommodate the simulated probability of an event (death or re-hospitalisation) in a single cycle. The average probability of either event occurring within a 3-month cycle (across the modelled 'population') does not exceed 30%; so a cycle of this length is reasonable. We have made this rationale clearer in section M.2.2.2</p> <p>The survival analysis was based on the survival of untreated patients (Baseline; National Heart Failure Audit 2013) and the effect of disease modifying therapies (LVSD only). The analysis of readmission was based on a population study by</p>

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		also recommended.		<p>Cowie <i>et al.</i> 2002 (baseline readmission; Appendix M 2.3.3) and the effect of disease modifying drugs for LVSD (Appendix M, 2.3.4).</p> <p>Some individuals may be re-admitted to acute care 4 or more time per year; however this cohort simulation does not explore health consequences at an individual level.</p> <p>Additional wording has been added to the guideline to make these points clearer.</p> <p>Half cycle was not judged to add benefit to the model structure given that 16 cycles were run in the base case.</p>
<p>Treatment effect:</p>	<p>The model considers only treatment benefits but not adverse events.</p> <p>It also assumes the treatment effect on readmission probabilities last for 2 years and the treatment effect on CV mortality to last for the full time horizon (4 years and 10 years).</p>	<p>Provide justification of the varying duration of treatment effects for re-admission and CV mortality as well as the rationale of neglecting adverse events</p> <p>Highlight that 100% compliance is a key assumption in the model and this is a limitation.</p> <p>Conduct several scenario analyses where effects beyond trial duration are modelled</p>	<p>Depending on the impact of adverse events, the results might vary from the current ones. Providing justifications of including or neglecting treatment adverse events and varying duration of treatment effects for re-admission and CV mortality would increase the credibility of the model.</p>	<p>Thank you for your comment.</p> <p>Adverse events</p> <p>The inclusion of additional health system contacts during the chronic (non-hospitalised) health state for patients who have received specialist input, and consequently a higher probability of disease-modifying therapy, may partially account for an increased probability of therapy adverse events. In</p>

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	<p>The treatment effects have been calculated using trials with duration of trial varying from 1 year to 4 years. In the model the calculated treatment has been applied throughout the time horizon for CV mortality.</p> <p>The model assumes 100% compliance with treatment.</p>	<p>differently: e.g. HR =1; HR gradually increased over time to 1; HR same as in trial period (=base case here).</p>		<p>addition, a sensitivity analysis of event risk (Appendix M, Table 125, SA 12) whereby all-cause death and all-cause readmission was examined, we found that cost-effectiveness was not sensitive to this consideration.</p> <p>Duration of treatment effects</p> <p>We agree that both mortality and readmission benefits from treatment are applicable for the same duration of time, therefore the duration of benefit for readmission risk has now been changed in the basecase from 2 to 4 years, to be consistent with the mortality effect.</p> <p>Compliance</p> <p>The model assumes the treatment compliance rate of the included RCTs since they used an intent-to-treat population; this is below 100%. Sensitivity analysis 8 finds that the basecase results are stable to the halving of size of drug effect associated with specialist involvement.</p>
<p>Readmission probabilities:</p>	<p>Readmission probability for uncorrected AHF patients was set to 33% at base</p>	<p>Provide evidence or justification to support this data point.</p>	<p>If the readmission probability for uncorrected AHF patients was much lower than 33%, the current model would</p>	<p>Thank you for your comment.</p> <p>Appendix M 2.3.5 describes the</p>

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	case, but no reference was provided.		overestimate the cost-effectiveness of NP test. On the other hand, if the readmission probability is much higher than 33%, the current cycle length (3-month) would be too long to represent the reality.	assumptions around detrimental effects for incorrect diagnosis; which are quantified in Table 107. Patients with a false negative working diagnosis which is uncorrected by discharge are subject to a 33% risk of readmission in the remainder of the cycle (75 days in cycle 1). This risk is a consensus estimate derived from expert clinical opinion. Sensitivity analysis 6 finds that the basecase results are stable to the elimination of mortality and readmission detriment resultant from all uncorrected false negative results; which a reduction of the base case assumption (33%) to 0%.
Discrepancy in the false negative uncorrected LVSD and NLVSD cohort Markov trace calculation	As stated in the 'NICE AHF Clinical Guidelines Consultation Appendices 25 March 2014.pdf' - In the base case, patients who were not initiated on treatment at the index admission continue untreated. But in the model the Markov trace of false negative uncorrected cohort has same probabilities as false negative corrected	As per the model Markov trace calculation for false negative uncorrected. The statement needs to rephrase in 'NICE AHF Clinical Guidelines Consultation Appendices 25 March 2014.pdf'. We recommend to add diagnostic cost in the cycle 2 as they were undiagnosed in the cycle 1	The ICERs of the deterministic, PSA and DSA will be impacted We expect ICERs of strategy 2 and 4 to go down	Thank you for your comment. In the basecase analysis those LVSD patients who are discharged from hospital without disease-modifying therapy continue untreated, but for a period of 75 days; which is the post-discharge period of cycle 1. It is likely that during this period most patients with a missed diagnosis of acute heart failure whereby the condition had previously required hospitalisation, would be positively diagnosed for

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	<p>cohort after cycle 1 onwards.</p> <p>In actual, false negative uncorrected cohort should use no-treatment mortality rate with costs same as no AHF</p>			<p>heart failure (and treated if LVSD).</p> <p>It is not unreasonable to include the cost of an echo for this small population (<1%), therefore the model has been revised to include this cost.</p>
<p>Linking error in the model impacting Deterministic Sensitivity Analysis (DSA 4)</p>	<p>Deterministic sensitive Analysis (DSA 4) Post Disc survival from NHFA(C33): Engine!E246:E283 and 'Acute state mort calc'!C62 are currently linked to 'Chronic state mort calc'!T62 which represent 3-month probability of death with cardiologist instead of 'Chronic state mort calc'!Z62 which represents 3-month probability of death with Non-cardiologist generated using NHFA Hazard rates</p> <p>For Non LVSD patients, as per the model assumptions, there won't be any benefits from cardiologists and since there won't be any NICOR data for the Non LVSD patients, the only source is 'Chronic state mort</p>	<p>The formula in the cells Engine!E246:E283 and 'Acute state mort calc'!C62 are to be linked with 'Chronic state mort calc'!Z62 instead of 'Chronic state mort calc'!T62 in the if conditional formula.</p>	<p>SA4: Post-discharge survival benefit effect from National Audit (base case: mortality is from LVSD from drug effect) DSA will be impacted.</p> <p>The ICERs of the strategies compared with standard management:</p> <p>STM: (Comparator)</p> <p>STM-NP: £ 6,056 (BC) , £ 6,568 (AC)</p> <p>SPM: £ 1,772 (BC), £ 1,899 (AC)</p> <p>SPM with NP: £ 2,437 (BC), £ 2,627 (AC)</p> <p>Note: BC – Before correction; AC – After correction</p>	<p>Thank you for your comment.</p> <p>We have found this comment difficult to interpret.</p> <p>Appendix M section 2.3.4 states that no survival benefits from cardiologist involvement are attributed to non-LVSD patients (sub-section entitled 'Mortality – Non-LVSD'). In the basecase it is correct that the Markov trace of patients existing in the chronic heart failure health state uses the probability of transition to the dead state from column Z; since no benefits (i.e. non-cardiologist risk) are applied to the patients of cohort 5 (Non-LVSD true-positive cardiologist input). This section states that data from the NHFA analysis is the source we have used, and this was judged as the most representative available</p>

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	calc!Z62			<p>source.</p> <p>The sensitivity analysis effected through 'Engine!C33 (DSA 4 in the model) explores the outcomes of the cohort when the NHFA is used for all chronic HF mortality transition probabilities (for LVSD and non-LVSD) are used in the model; which also means the outcomes of non-LVSD patients now differ according to whether input was received by a cardiologist, unlike the basecase.</p> <p>Whilst we do not uphold the comment we have included an additional sensitivity analysis which explores the effect of using NHFA data for only LVSD patients. This allows the examination of cost-effectiveness using an alternative source to the basecase, whilst retaining the assumption of no benefit from cardiologist involvement for non-LVSD patients.</p>
The time horizon of the model	The time horizon chosen is 4 years which is very conservative.	A lifetime horizon should be used as most of the patients with an acute episode are chronic patients.	This will change the ICER	<p>Thank you for your comment.</p> <p>In the presence of uncertainty the GDG favoured a conservative approach. Four years was selected as the time horizon in the basecase analysis because this is a reasonable estimate of the period</p>

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				<p>over which the main differences in approach to organisation care would be expected (median survival <2.5 years [see model survival analysis]); and matched the period of data collection in the national audit at the time of the guideline. The extrapolation of health effects to 10-years reduces uncertainty around this assumption since the results remain stable.</p>
<p>Patient population</p>	<p>The model only included de nouveau patients even though 70% of those with acute episodes are chronic patients</p>	<p>To also include chronic patients with an acute episode</p>	<p>This will change the ICER</p>	<p>Thank you for your comment.</p> <p>A <i>de novo</i> population was selected in order that the evaluation of diagnostic approaches represents the population of interest – expert opinion is that conducting NP testing and echo would not normally change the decision process for patients where this had recently been done or a diagnosis had already been confirmed.</p> <p>The trial (McCullough, Ref 103) used to determine the prevalence of AHF in the starting cohort included patients with known chronic heart failure. Since patients with known chronic heart failure would not benefit from NP testing to the same extent, this may underestimate the usefulness of NP testing when</p>

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				<p>applied to a strict <i>de novo</i> population. Also, since and the accuracy of the ED physician without the NP test was also determined from an 'all-comer' population, and patient history is included in assessment, his/her accuracy may be overestimated compared to a <i>de novo</i> population; consequently the usefulness of the NP test may be underestimated in this case.</p> <p>On the other hand, the model is generalizable to an 'all-comer' population. This point is made in Appendix M section 4.3.</p>
<p>Formula errors impacting the ICERs</p>	<p>Probability of CV death on placebo and all cause death on placebo: Some of the formulas did not have the sum function applied to the range.</p>	<p>The probability calculation formula in the cells 'CV mort treat effect calc!' H16 to be changed to Sum(C16:C18/D16:D18) instead of +C16:C18/D16:D18 and similarly in H27</p>	<p>The ICERs of the deterministic, PSA and DSA will be impacted</p> <p>The ICERs of the strategies in comparison to standard management of deterministic analysis:</p> <p>STM: (Comparator) STM-NP: £ 12,067 (BC) , £ 12,112 (AC) SPM: £ 3,277 (BC), £ 3,286 (AC) SPM with NP: £ 4,739 (BC), £ 4,753 (AC)</p> <p>Note: BC – Before correction; AC – After correction</p>	<p>Thank you for your comment.</p> <p>We agree and so the model and the write-up have now been revised accordingly.</p>
<p>Linking errors in the model</p>	<p>The standard error (SE) of Readmission risk reduction ACEi/ARA (Inputs!H49) and</p>	<p>The formula in the cell Inputs!H49 and Inputs!H50 is to be linked with 'Readm treat</p>	<p>The Results of the PSA will be impacted. The ICERs of the strategies compared with standard management (The cost</p>	<p>Thank you for your comment.</p> <p>We agree and so the model and the</p>

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impacting PSA	Readmission risk reduction BB (Inputs!H50) was linked wrongly with the SE of Readmission risk reduction BB and Readmission risk reduction ACEi/ARA	eff!H13 and 'Readm treat eff!H16 respectively	and life years used for calculation of ICERs are average of 1000 runs): STM: Comparator STM-NP: £ 12,942(BC) , £ 12,872(AC) SPM: £ 3,291 (BC), £ 3,280 (AC) SPM with NP: £ 4,895 (BC), £ 4,884(AC) Note: BC – Before Correction; AC – After Correction Considering this is a PSA, The numbers may not exactly match when rerun.	write-up have now been revised accordingly.
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These organisations were approached but did not respond:

Abbott Diagnostics Division
Action Heart
Aintree University Hospital NHS Foundation Trust
Alere
Alere Ltd
Allocate Software PLC
AMORE health Ltd
Anglia Stroke and Heart Network
Arrhythmia Alliance
Association for Family Therapy and Systemic Practice in the UK
Association of Ambulance Chief Executives
Association of Anaesthetists of Great Britain and Ireland
Association of Cardiothoracic Anaesthetists
Atrial Fibrillation Association
Bard Limited
Barnet and Chase Farm Hospitals NHS Trust
Barnsley Hospital NHS Foundation Trust
Black and Ethnic Minority Diabetes Association
Blackpool, Fylde and Wyre Hospitals NHS Foundation Trust

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Boots
Bradford Districts Clinical Commissioning Group
Brahms UK Limited-Thermo Fisher Scientific
Bristol-Myers Squibb Pharmaceuticals Ltd
British Anaesthetic and Recovery Nurses Association
British Association for Cardiovascular Prevention & Rehabilitation
British Cardiovascular Society
British Geriatrics Society
British Heart Foundation
British Medical Association
British Medical Journal
British National Formulary
British Nuclear Cardiology Society
British Pharmacological Society
British Psychological Society
British Red Cross
British Society of Thoracic Imaging
Capsulation PPS
Cardiac and Stroke Networks in Lancashire & Cumbria
Cardiomyopathy Association, The
Care Quality Commission
Chadderton Health Centre
Chartered Society of Physiotherapy
CIS' ters
Clarity Informatics Ltd
Coventry and Warwickshire Cardiac Network
Coverage Care Services Ltd
Covidien Ltd.
Croydon Clinical Commissioning Group
Croydon Health Services NHS Trust
Croydon University Hospital
Deltex Medical
Department of Health, Social Services and Public Safety - Northern Ireland
Drinksense
East and North Hertfordshire NHS Trust
East Kent Hospitals University NHS Foundation Trust
East Lancashire Hospitals NHS Trust
East Midland Ambulance Services NHS

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Economic and Social Research Council
Education for Health
Elcena Jeffers Foundation
Ethical Medicines Industry Group
European Heart Rhythm Association
Faculty of Intensive Care Medicine
Faculty of Sport and Exercise Medicine
Five Boroughs Partnership NHS Trust
Foundation Trust Network
G&N Medical Ltd
Gambro UK
GP update / Red Whale
Guidelines and Audit Implementation Network
Guy's and St Thomas' NHS Foundation Trust
Harrow Local Involvement Network
Health & Social Care Information Centre
Health and Care Professions Council
Healthcare Improvement Scotland
Healthcare Infection Society
Healthcare Quality Improvement Partnership
Healthwatch East Sussex
HeartWare Inc.
Herts Valleys Clinical Commissioning Group
Hindu Council UK
Hockley Medical Practice
Hughes Syndrome Foundation
Hull City Council
Human Donor Breast Milk Bank
Humber NHS Foundation Trust
Independent Healthcare Advisory Services
Intuitive Surgical
L.IN.C.Medical
Lancashire Care NHS Foundation Trust
Leeds Community Healthcare NHS Trust
Leeds North Clinical Commissioning Group
Leeds South and East Clinical Commissioning Group
Local Government Association
London Respiratory Team

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Luton and Dunstable Hospital NHS Trust
Manchester Metropolitan University
Maquet UK Ltd
Medicines and Healthcare products Regulatory Agency
Medicines Company, The
Medtronic
Medway Community Centre
Merck Sharp & Dohme UK Ltd
Mid Cheshire Hospitals NHS Trust
Ministry of Defence (MOD)
Monash Health
Msb consultancy
National Association of Primary Care
National Clinical Guideline Centre
National Collaborating Centre for Cancer
National Collaborating Centre for Mental Health
National Collaborating Centre for Women's and Children's Health
National Deaf Children's Society
National Institute for Health Research Health Technology Assessment Programme
National Institute for Health Research
National Patient Safety Agency
NHS Barnsley Clinical Commissioning Group
NHS Central Lancashire
NHS Connecting for Health
NHS County Durham and Darlington
NHS Cumbria Clinical Commissioning Group
NHS Halton CCG
NHS Hardwick CCG
NHS Health at Work
NHS Improvement
NHS Leeds West CCG
NHS Medway Clinical Commissioning Group
NHS Pathways
NHS Plus
NHS Sheffield
NHS South Cheshire CCG
NHS Wakefield CCG
NHS Warwickshire North CCG

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NHS West Hampshire CCG
NHS West Lancashire CCG
Norfolk, Suffolk and Cambridgeshire Critical Care Network
North Essex Partnership Foundation Trust
North of England Commissioning Support
North of England Critical Care Network
North Trent Network of Cardiac Care
North West Ambulance Service NHS Trust
North West London Hospitals NHS Trust
Nottingham City Council
Nottingham University Hospitals NHS Trust
Nursing and Midwifery Council
Orion Pharma
Oxford Health NHS Foundation Trust
Oxfordshire Clinical Commissioning Group
Pan London Acute Medicine Network
Parenteral and Enteral Nutrition Group
Parkwood Healthcare
Patients & Relatives Committee of the Intensive Care Society
Peninsula Heart & Stroke Network
Pfizer
PHE Alcohol and Drugs, Health & Wellbeing Directorate
Primary Care Pharmacists Association
Primrose Bank Medical Centre
Public Health Agency for Northern Ireland
Public Health England
Public Health Wales NHS Trust
Public Health Wales NHS Trust
Queen Elizabeth Hospital King's Lynn NHS Trust
Renal Association
Robert Jones & Agnes Hunt Orthopaedic & District Hospital NHS Trust
Roche Diagnostics
Royal Brompton Hospital & Harefield NHS Trust
Royal College of Anaesthetists
Royal College of General Practitioners in Wales
Royal College of Midwives
Royal College of Obstetricians and Gynaecologists
Royal College of Paediatrics and Child Health

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Royal College of Pathologists
Royal College of Physicians and Surgeons of Glasgow
Royal College of Psychiatrists
Royal College of Radiologists
Royal College of Surgeons of England
Royal Free London NHS Foundation Trust
Royal Pharmaceutical Society
Sanofi
Scottish Intercollegiate Guidelines Network
Sheffield Teaching Hospitals NHS Foundation Trust
Shropshire and Staffordshire Cardiac Network
Skills for Care
Social Care Institute for Excellence
South Asian Health Foundation
South London & Maudsley NHS Trust
South London Cardiac and Stroke Network
South London Cardiovascular and Stroke Network
Southern Health NHS Foundation Trust
Southport and Ormskirk Hospital NHS Trust
Spectranetics Corporation
St John Ambulance
St Mary's Hospital
Staffordshire and Stoke on Trent Partnership NHS Trust
Stockport Clinical Commissioning Group
stoke and north staffs local pharmacy committee
Surrey Heart & Stroke Network
Tavistock Centre for Couple Relationships
Teva UK
Thames Ambulance Service Ltd
The African Eye Trust
The Association for Clinical Biochemistry & Laboratory Medicine
The Patients Association
The Rotherham NHS Foundation Trust
UK Clinical Pharmacy Association
UK Thalassaemia Society
University Hospital Birmingham NHS Foundation Trust
University Hospital of North Staffordshire NHS Trust
University Hospitals Birmingham

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University of Glasgow
Verathon Medical UK Limited
Walsall Local Involvement Network
Wandsworth Clinical Commissioning Group
Welsh Government
Welsh Scientific Advisory Committee
Western Sussex Hospitals NHS Trust
Wigan Borough Clinical Commissioning Group
Wirral University Teaching Hospital NHS Foundation Trust
Worcestershire LINK
York Hospitals NHS Foundation Trust
Yorkshire and Humber Strategic Clinical Networks

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