Investigation and management of heart valve disease in adults

Consultation on draft scope
Stakeholder comments table

18 February 2019 – 18 March 2019

Stakeholder	Page no.	Line no.	Comments	Developer's response
Abbott Medical UK	4	9	We would recommend that special consideration also be given to people wanting children. This could expand beyond women considering pregnancy to people considering adoption. Although this may be a small group, the benefits of heart valve replacement on the ability to be active is also pertinent.	Thank you for your comment. Women who are considering pregnancy will be considered by the committee as a stratum or subgroup in the review protocols as deemed appropriate by the committee. Subgroups are analysed if there is evidence of heterogeneity in the results. If there is evidence of difference in effectiveness between the subgroups this would enable the committee to make specific recommendations for each subgroup. There are no clinical reasons to assess or manage people who are considering adoption differently.
Abbott Medical UK	4	9 - 12	We would also recommend that young and older people that were previously active should be given special consideration as these people are likely to return to an active lifestyle.	Thank you for your comment. Age will be addressed as strata or subgroups in the review protocol as deemed appropriate by the committee. Subgroups are analysed if there is evidence of heterogeneity in the results. If there is evidence of difference in effectiveness between the subgroups this would enable the committee to make specific recommendations for each subgroup. Whether or not a person was previously active was not considered to be clinically relevant. However, the ability to perform activities of daily living or return to previous activities may be considered as outcomes by the committee when defining the review protocols.
Abbott Medical UK	5	12	We suggest that the approach for TAVI be given consideration as this can currently be via more than one route.	Thank you for your comment. This level of detail of interventions will be specified within the review protocols which will be written with the committee.
Abbott Medical UK	8	1 - 6	It will be important to tie this in with the NHS Long-term Plan, that refers to improved diagnosis in primary care and improved access to heart failure specialists. There should be reference to the Long-	Thank you for your comment. This section presents the draft review questions. We hope that primary care diagnosis will be supported by the findings from our first

Investigation and management of heart valve disease in adults

Consultation on draft scope
Stakeholder comments table

18 February 2019 to 18 March 2019

Comments forms with attachments such as research articles, letters or leaflets cannot be accepted.

Stakeholder	Page no.	Line no.	Comments	Developer's response
			term Plan in this section, as it shows how NICE are supporting the plan.	two review questions, which have been reworded as follows: 1.1 In people with suspected heart valve disease, what symptoms and signs indicate referral (for example from primary care) for echocardiography? 1.2 In people with suspected heart valve disease, what symptoms and signs indicate direct referral (for example from primary care) to a specialist? The committee will consider current policy as part of its decision-making process, and relevant guidelines and policies will be referred to in the context section of the published guideline.
Abbott Medical UK	8	27 - 29	Does 'repeat valve replacement' mean open surgery? The intention of the comparison should be clear.	Thank you for your comment. We have reworded this question to clarify the comparison as follows: What is the clinical and cost effectiveness of repeat transcatheter or surgical valve intervention for prosthetic biological valve degeneration following initial transcatheter or surgical intervention?
Abbott Medical UK	9	19 - 27	We suggest that outcome measures should also include: - • Haemodynamics • Symptom relief • ICU stay	Thank you for your comment. We cannot list all relevant outcomes here and those listed are just the main, overarching outcome measures. We will define outcomes relevant for each review question when writing the protocols and will consider your suggestions.
Association of British	4	9 - 12	The ABHI Heart Valve Working Group wish to thank NICE for the opportunity to comment on the draft scope for the new clinical	Thank you for your comments. Regarding operative risk for TAVI, this level of detail will be considered by the

Investigation and management of heart valve disease in adults

Consultation on draft scope
Stakeholder comments table

18 February 2019 to 18 March 2019

Comments forms with attachments such as research articles, letters or leaflets cannot be accepted.

Stakeholder	Page no.	Line no.	Comments	Developer's response
HealthTech Industries			guideline on Diagnosis and Management of Heart Valve Disease. In order to align with the RCT data, where TAVI is being compared to standard of care, we recommend that the scope document allows for stratification of patients based on risk (inoperable, high, intermediate and low risk) where comparisons between TAVI and standard of care are being made. Other patient groups that should be looked at include the following: • Women who want children • Young and elderly active people	committee when defining the review protocol and the current scope does not preclude us from stratifying the data in this way. Women who are considering pregnancy will be considered as a separate stratum in the review protocols as deemed appropriate by the committee. This would enable the committee to make specific recommendations.
Association of British HealthTech Industries	5	12	We suggest including a sub-category below "Approach (conventional surgery versus transcatheter intervention)" to also account for the different approaches for TAVI, such as transfemoral, transapical and sub-clavian.	Thank you for your comment. This level of detail of interventions will be specified within the review protocols which will be written with the committee.
Association of British HealthTech Industries	5	20	The draft scope excludes pulmonary valve disease due to its congenital nature however it is important to highlight that both pulmonary and tricuspid valves can also be subject to acquired disease, e.g. rheumatic heart disease and therefore should be included in the scope.	Thank you for your comment. Because tricuspid stenosis and pulmonary valve disease present so rarely in adults it was decided that they should not be prioritised for inclusion as they would always only be seen by experts in tertiary centres. Other heart valve disease caused by rheumatic fever will be included in the guideline.
Association of British HealthTech Industries	8	1 - 6	We recommend that more emphasis is given to Primary care diagnosis to align with the NHS Long Term Plan regarding Heart Valve Disease: • multi-disciplinary teams as part of primary care networks	Thank you for your comment. This section presents the draft review questions and we are unable to link to other NHS policy. Service delivery is outside of the remit for this guideline. However, we hope that primary care diagnosis will be supported by the findings from our first

Investigation and management of heart valve disease in adults

Consultation on draft scope
Stakeholder comments table

18 February 2019 to 18 March 2019

Comments forms with attachments such as research articles, letters or leaflets cannot be accepted.

Stakeholder	Page no.	Line no.	Comments	Developer's response
			• rapid access to heart failure nurses • personalised planning for patients to reduce hospital admissions and NHS drug spend. • greater access to echocardiography in primary care to improve early detection of heart failure and valve disease	two review questions, which have been reworded as follows: 1.1 In people with suspected heart valve disease, what symptoms and signs indicate referral (for example from primary care) for echocardiography? 1.2 In people with suspected heart valve disease, what symptoms and signs indicate direct referral (for example from primary care) to a specialist?
Association of British HealthTech Industries	8	23 - 24	The draft scope clearly states that transcatheter intervention or surgery will be compared with conservative management however the comparison of TAVI versus conventional surgery is not explicitly included.	Thank you for your comment. We intend to include this comparison and have amended the wording of the review question to make this explicit.
Association of British HealthTech Industries	8	27 - 29	We recommend that 4.2 clearly states degeneration of both surgical and transcatheter prosthetic valves.	Thank you for your comment. We have reworded this question to clarify the comparison as follows: What is the clinical and cost effectiveness of repeat transcatheter or surgical valve intervention for prosthetic biological valve degeneration following initial transcatheter or surgical intervention? The intention is to cover repeat intervention for degeneration of surgical biological or transcatheter valves.
Association of British HealthTech Industries	9	19 - 27	We recommend that the main outcomes should also include the following: • Haemodynamic improvement • Symptom Relief	Thank you for your comment. We cannot list all relevant outcomes here and those listed are just the main, overarching outcome measures. We will define outcomes relevant for each review question when writing the protocols and will consider your suggestions.

Investigation and management of heart valve disease in adults

Consultation on draft scope
Stakeholder comments table

18 February 2019 to 18 March 2019

Comments forms with attachments such as research articles, letters or leaflets cannot be accepted.

Stakeholder	Page no.	Line no.	Comments	Developer's response
			• Infection • All-cause mortality vs. cardiovascular mortality • ICU Stay • Re-hospitalisation for heart failure • Discharge to Home • Acute Kidney Injury • Rehabilitation • Deep Sternal Wound Infection • Transfusion of red cells/ Blood transfusion rates • Return to Theatre for bleeding	
Boston Scientific Limited	3	5	We would ask NICE to consider replacing the word 'Conventional' with 'Open Heart surgery' as this term is more specific and accurate	Thank you for your comment. We have removed the word conventional throughout the scope and instead refer to 'surgery'. We do not want to specify 'open heart' surgery to avoid using language that may cause unnecessary anxiety for people with heart valve disease.
Boston Scientific Limited	4	6 - 7	We would like to respectfully ask NICE to update the section of groups that will be covered in the guidelines, with the most accurate and specific definitions, as this is how the disease states will be referenced throughout the guidelines. We suggest replacing "Adults with diagnosed heart valve disease (aortic, mitral, bicuspid and tricuspid)" with **Adults with diagnosed heart valve disease (aortic [including bicuspid] stenosis and regurgitation, mitral stenosis and regurgitation, tricuspid regurgitation).**	Thank you for your comment. We agree and have made this change.
Boston Scientific Limited	5	3 and 12	We would ask NICE to consider replacing the word 'Conventional' with 'Open Heart surgery' as this term is more specific and accurate	Thank you for your comment. We have removed the word conventional throughout the scope and instead

Investigation and management of heart valve disease in adults

Consultation on draft scope
Stakeholder comments table

18 February 2019 to 18 March 2019

Comments forms with attachments such as research articles, letters or leaflets cannot be accepted.

Stakeholder	Page no.	Line no.	Comments	Developer's response
				refer to 'surgery'. We do not want to specify 'open heart' surgery to avoid using language that may cause unnecessary anxiety for people with heart valve disease.
Boston Scientific Limited	8	22 - 26	We would ask NICE to consider splitting this section in subsections - by type of heart valve disease (e.g. 4.1 aortic stenosis, 4.2 aortic regurgitation, 4.3 mitral stenosis, etc), to better reflect the specificities of each treatment pathway.	Thank you for your comment. When the evidence is reviewed, each type of heart valve disease will be considered separately. We have written the review question in this way to avoid repetition.
Boston Scientific Limited	8	22 - 26	We would ask NICE to consider adding a specific subsection on how to address dual or triple valve disease, for example concomitant mitral regurgitation and aortic stenosis, as those patients present different risk profiles compared to patients with single valve disease, and treatment options may vary with the severity of their disease.	Thank you for your comment. This group are not excluded from the scope and when developing review protocols the committee will discuss whether to include multiple valve disease as a subgroup for these questions. As a general approach we will classify data according to the main valve disease driving the intervention and will look at other valve disease if there is heterogeneity in the data.
British Heart Valve Society	General	General	The scoping questions generally cover the ground of well-established American and European documents. What is lacking, especially for the UK and the unique position of the NHS and its ambition for national integrated care is guidance on the ***organisation*** of care to improve outcomes. This NICE document could have a major impact if it were able to offer this guidance.	Thank you for your comment. The remit from NHS England is to develop a guideline on the 'Investigation and management of heart valve disease in adults'. Service delivery is therefore outside of this remit.
British Heart Valve Society	General		The document should discuss who sees patients with valve disease. Should the cardiologist/nurse/physiologist have any competencies in valve disease or is a generalist sufficient. How can competencies be defined?	Thank you for your comment. It is outside of the remit of NICE guidelines to specify the competencies a person must have.

Investigation and management of heart valve disease in adults

Consultation on draft scope
Stakeholder comments table

18 February 2019 to 18 March 2019

Comments forms with attachments such as research articles, letters or leaflets cannot be accepted.

Stakeholder	Page no.	Line no.	Comments	Developer's response
British Heart Valve Society	General		Universal consensus is that multidisciplinary teams should care for patients with valve disease ensuring that they see the person with competencies most appropriate for their condition. Is this better than the patient seeing a non-cardiologist or a general cardiologist with no specialist knowledge or experience of valve disease.	Thank you for your comment. In accordance with accepted best practice multidisciplinary teams should care for people with heart valve disease. As NICE guidelines focus on areas where there is variation in practice or uncertainty we have therefore not included a question on this topic.
British Heart Valve Society	General		Universal consensus is that patients with repairable mitral prolapse should have their operation by a surgeon with competencies in this condition operating in a centre with excellent standards of care. Should this document make this recommendation or is it sufficient for any surgeon to operate according to local availability?	Thank you for your comment. It is outside of the remit of NICE guidelines to specify the competencies a person must have. But if there is evidence of differential effectiveness we may make recommendations on who should deliver the intervention.
British Heart Valve Society	General		What standards should a patient expect in their cardiac centre?	Thank you for your comment. The remit from NHS England is to develop a guideline on the 'Investigation and management of heart valve disease in adults'. Standards of cardiac centres are therefore outside of this remit.
British Heart Valve Society	2	general	Multiple valve disease is common and needs special consideration	Thank you for your comment. This group is not excluded from the scope and when developing protocols the committee will discuss whether to include multiple valve disease as a subgroup where relevant. Subgroups are analysed if there is heterogeneity in the results.
British Heart Valve Society	2	8	Aortic regurgitation as a result of dilatation of the aortic root or ascending aorta needs to be added to the list of secondary valve lesions	Thank you for your comment. We will be considering aortic regurgitation as a result of dilatation of the aortic root or ascending aorta. However, we have not classified this as 'secondary valve disease' as this term

Investigation and management of heart valve disease in adults

Consultation on draft scope
Stakeholder comments table

18 February 2019 to 18 March 2019

Comments forms with attachments such as research articles, letters or leaflets cannot be accepted.

Stakeholder	Page no.	Line no.	Comments	Developer's response
				is reserved for valve disease secondary to the cardiac chambers dilatation rather than secondary dilatation of the aorta.
British Heart Valve Society	2	15	Symptoms are not usually specific to the valve lesion. Most patients with any type of valve disease report breathlessness. More importantly the onset of overt symptoms is commonly heralded by a reduction in exercise capacity. This can be difficult to notice and should be highlighted.	Thank you for your comment. We agree and have changed the wording of the text to say that 'People with heart valve disease may have no symptoms or may have symptoms that can be dependent on the affected valve'. We have also added reduced exercise capacity to the list of symptoms for untreated severe disease.
British Heart Valve Society	3	1	Drugs are not an adequate treatment for symptoms from valve disease. Invasive intervention is indicated by symptoms and medicines are used palliatively if an intervention is not feasible. Except in the very specific case of functional mitral regurgitation, drugs do NOT improve prognosis in most cases of heart valve disease. This is unlike the situation instable angina where intervention is usually only needed when medicines are failing to control chest pain.	Thank you for your comment. We agree that drugs do not control all of the symptoms or improve prognosis and are not a substitute for intervention. We have edited the phrase to read 'to improve symptoms' with respect to drugs.
British Heart Valve Society	3	25-27	This document correctly mentions inequalities since there are many geographical and population specific barriers and inequalities. In the UK, there are many geographical inequalities in the provision of healthcare at different points in the journey of a patient who presents with heart valve disease – from diagnosis to investigations and treatment. However this important subject is not addressed in the questions within the scoping document.	Thank you for your comment. The guideline will look at inequalities related to 'access to echocardiography and specialist assessment by geographic location'. This will be a consideration throughout the guideline for all relevant review questions.
British Heart	4	9 - 12	The document states that special consideration will be given to	Thank you for your comment. The groups identified in

Investigation and management of heart valve disease in adults

Consultation on draft scope
Stakeholder comments table

18 February 2019 to 18 March 2019

Comments forms with attachments such as research articles, letters or leaflets cannot be accepted.

Stakeholder	Page no.	Line no.	Comments	Developer's response
Valve Society			patients with bicuspid aortic valve or who are pregnant or at high risk of intervention. However these are not mentioned in the list of questions.	this section will be considered throughout the guideline, where appropriate. For example evidence may be looked at separately for some groups or the groups may be subgroups if heterogeneity is present. This will be discussed by the committee when defining the review protocols.
British Heart Valve Society	5	General	Throughout the document transcatheter procedures are listed as if equivalent to conventional surgery. This suggests a bias in favour of commercial companies who are interested to market transcatheter aortic valves to progressively lower-risk patient groups. The choice of language ('conventional surgery versus transcatheter') is different from that used elsewhere for replacement valves ('mechanical or biological').	Thank you for your comment. We have amended the scope to remove the term conventional and just refer to 'surgery'. We have also made our language consistent by changing 'versus' to 'or' throughout.
British Heart Valve Society	5		The document starts from the situation of suspecting valve disease but about one half of cases are not suspected and are diagnosed at too late a stage leading to a worse prognosis and the need for far more expensive care. The problems in the UK facing patients with heart valve disease are broadly similar to those with cancer (albeit the condition being less prevalent) with insufficient awareness, insufficient diagnostic capacity, leading to late diagnoses etc. This document should give guidance on when to perform auscultation or to request echocardiography e.g. patients with any cardiac symptom, COPD with disproportionate breathlessness, origin in a country with a high prevalence of rheumatic disease, first degree relatives of patients with bicuspid aortic valve, atrial fibrillation. Guidance and support to primary care to improve early stage	Thank you for your comment. We agree that raising awareness of a possible heart valve disease diagnosis is important. Screening does not fall within the remit of NICE clinical guidelines and so we must start from the position of suspected heart valve disease. However, we anticipate that the findings for the first two review questions, which have been reworded, should allow us to make recommendations that will clarify which patients should be considered for echocardiography or specialist assessment based on their presenting assessment with a non-specialist. 1.1 In people with suspected heart valve disease, what symptoms and signs indicate referral (for example from

Investigation and management of heart valve disease in adults

Consultation on draft scope
Stakeholder comments table

18 February 2019 to 18 March 2019

Comments forms with attachments such as research articles, letters or leaflets cannot be accepted.

Stakeholder	Page no.	Line no.	Comments	Developer's response
			services including use of point of care diagnostic devices such as ultrasound/echocardiography which have greater diagnostic accuracy to diagnose and/or exclude heart valve disease than simple auscultation. Guidance of the organisation of primary care services to improve diagnostic rates of heart valve disease such as the use of GPs with special interest, special clinics on the community, etc	primary care) for echocardiography? 1.2 In people with suspected heart valve disease, what symptoms and signs indicate direct referral (for example from primary care) to a specialist?
British Heart Valve Society	5	22	The treatment of infective endocarditis is not being covered but this is a condition which is still imperfectly managed and has a 20% inpatient mortality rate.	Thank you for your comment. The remit from NHS England is to develop a guideline on the 'Investigation and management of heart valve disease in adults'. The management of infective endocarditis is outside of this remit.
British Heart Valve Society	8	22 - 29	Medical management is not usually an equal alternative to intervention except in specific groups for example the elderly with many comorbidities or patient with functional mitral regurgitation secondary to heart failure. This question needs to be refined.	Thank you for your comment. We agree that medical management is not an alternative to intervention and the population will be refined by the committee, for example to specify it is people for whom intervention is not appropriate or has been declined.
British Heart Valve Society	8	Section 4	As the numbers of patients who require intervention for heart valve disease increases, the effect of type of device chosen (mechanical surgical, tissue surgical or transcatheter) on healthcare resource usage/consumption needs to be assessed.	Thank you for your comment. This area will be considered a high priority in the economic plan. An economic analysis may be conducted in this area depending on the outcome of the clinical and economic reviews.
British Heart Valve Society	8 - 9	Section 5.1	The question needs to be refined since for example anticoagulation is essential with a mechanical valve replacement and a cost-effectiveness comparison against aspirin or no therapy is not	Thank you for your comment. We have clarified the wording of question 5.1 as follows: What is the clinical and cost effectiveness of anticoagulant and antiplatelet

Investigation and management of heart valve disease in adults

Consultation on draft scope
Stakeholder comments table

18 February 2019 to 18 March 2019

Comments forms with attachments such as research articles, letters or leaflets cannot be accepted.

Stakeholder	Page no.	Line no.	Comments	Developer's response
			relevant. What is important is the low use in the NHS of point of care devices for patient with mechanical valve prostheses to self-manage their anticoagulation therapy despite very good evidence of efficacy and cost-effectiveness. There is evidence that younger patients who require surgical aortic valve replacement are not given correct information on benefits and risks of warfarin use as well as the possible complex healthcare needs they will require if they choose to have a tissue valve.	therapy for people with transcatheter or surgically placed biological prosthetic valves? We have removed mechanical valves from the question as these always need anticoagulation. However, we will cross refer to NICE guidance DG14 (Atrial fibrillation and heart valve disease: self-monitoring coagulation status using point-of-care coagulometers) for people with mechanical valves. **Regarding information on the benefits and risks of warfarin, we have a review question on information for patients which will cover this issue.**
British Heart Valve Society	9	Section 6.1	The use of Patient Reported Outcome Measures (PROMS) and other remote ways of monitoring patients with heart valve disease e.g. (telephone clinics) needs to be examined. This is important because of the rapid increase in incidence/prevalence and the effect on already stretched NHS outpatient services. Monitoring is usually with symptoms and echocardiography while BNP and other biomarkers may be helpful but are not used routinely.	Thank you for your comment. These measures will be considered for inclusion in the review protocol for question 6.1, along with all other types of monitoring. The examples included in the wording of the question are indicative only and not an exhaustive list.
British Heart Valve Society	9	10	Monitoring after surgery depends on the type of surgery. Guidelines have been published.	Thank you for your comment. We will take this into account when writing the review protocol for this question.
British Heart Valve Society	9	18	Other outcomes are endocarditis, stroke, bleeding	Thank you for your comment. We cannot list all relevant outcomes in the scope and those listed are just the main, overarching outcome measures. We will define outcomes relevant for each review question when writing

Investigation and management of heart valve disease in adults

Consultation on draft scope
Stakeholder comments table

18 February 2019 to 18 March 2019

Comments forms with attachments such as research articles, letters or leaflets cannot be accepted.

Stakeholder	Page no.	Line no.	Comments	Developer's response
				the protocols and will consider your suggestions.
Cochrane Heart Group	General	General	I believe the main gap in this guideline from a cardiologist and cardiac electrophysiologist point of view is the lack of a section to deal with electrical complications following valve surgery. These patiently develop atrioventricular block and a decision needs to be made on: a. Do they need a pacemaker? b. How long shall we wait to see if they will eventually recover.	Thank you for your comment. Evidence on rate or rhythm complications following valve surgery will be captured within the adverse events outcome in the protocol of relevant review questions.
Edwards Lifesciences Limited	4	9 - 12	There needs to be advice on the types of patients that should receive what intervention as there are a number of considerations: • Open heart Surgery / Minimal Invasive Surgery / Transcatheter • Low risk / intermediate risk / high risk / inoperable • Mechanical / Biological / Self-expandable / Balloon expandable valves • Women who want children • Young and elderly active people •	Thank you for your comment. The considerations that you mention will be addressed as strata or subgroups in the review protocol as deemed appropriate by the committee. Subgroups are analysed if there is evidence of heterogeneity in the results. If there is evidence of difference in effectiveness between the subgroups this would enable the committee to make specific recommendations for each subgroup. Women who want children and people at higher risk from interventions are already included as groups for specific consideration.
Edwards Lifesciences Limited	5	11 - 18	There are Self-expandable / Balloon expandable percutaneous valves	Thank you for your comment. These valves are not excluded from the scope and this level of detail for interventions will be specified within the review protocols which will be written with the committee.
Edwards Lifesciences	5	12	Should involve transcatheter entry point – transfemoral / transapical / sub-clavian etc?	Thank you for your comment. This level of detail of interventions will be specified within the review protocols

Investigation and management of heart valve disease in adults

Consultation on draft scope
Stakeholder comments table

18 February 2019 to 18 March 2019

Comments forms with attachments such as research articles, letters or leaflets cannot be accepted.

Stakeholder	Page no.	Line no.	Comments	Developer's response
Limited				which will be written with the committee.
Edwards Lifesciences Limited	5	20 - 21	Should include tricuspid stenosis	Tricuspid stenosis was thought to present so rarely in adults that it should not be included as people would always only be seen by experts in tertiary centres.
Edwards Lifesciences Limited	6		Reference should be made to current guidelines from medical societies: • European Society of Cardiology - 2017 ESC/EACTS Guidelines for the management of valvular heart disease • 2014 (update 2017) American College of Cardiology/American Heart Association - AHA/ACC Guideline for the Management of Patients With Valvular Heart Disease	Thank you for your comment. The committee will consider current guidelines as part of its decision-making process, and relevant guidelines and policies will be referred to in the context section of the published guideline.
Edwards Lifesciences Limited	8	1 - 6	Primary care diagnosis needs to be stated more clearly particularly since the NHS Long Term Plan mentions with regards Hear Valve Disease: • multi-disciplinary teams as part of primary care networks • rapid access to heart failure nurses so more patients not on cardiology ward will receive specialist care and advice • personalised planning for patients will reduce nights spent in hospital and reduce drug spend • greater access to echocardiography in primary care will improve the investigation of those with breathlessness, and the early detection of heart failure and valve disease	Thank you for your comment. Service delivery recommendations do not come within the remit of this guideline. However, we hope that primary care diagnosis will be supported by the findings from our first two review questions, which have been reworded as follows: 1.1 In people with suspected heart valve disease, what symptoms and signs indicate referral (for example from primary care) for echocardiography? 1.2 In people with suspected heart valve disease, what symptoms and signs indicate direct referral (for example from primary care) to a specialist? The role of multi-disciplinary teams to support the recommendations will be considered.

Investigation and management of heart valve disease in adults

Consultation on draft scope
Stakeholder comments table

18 February 2019 to 18 March 2019

Comments forms with attachments such as research articles, letters or leaflets cannot be accepted.

Stakeholder	Page no.	Line no.	Comments	Developer's response
Edwards Lifesciences Limited	8	27 - 29	Transcatheter valve-in-valve should be included	Thank you for your comment. We intend to include this intervention and full details will be defined in the protocol for this review question.
Edwards Lifesciences Limited	9	18 - 27	Should also consider: • Types of required anaesthesia (local vs. general) • Hospital length of stay and time in Intensive Care Unit • Infection • All-cause mortality vs. cardiovascular mortality • Quality of Life specific for Heart Failure population (KCCQ, Minnesota for HF, etc.) • Re-hospitalization for Heart Failure (linking 3. And 5.) • Patient opinion	Thank you for your comment. We cannot list all relevant outcomes here and those listed are just the main, overarching outcome measures. We will define outcomes relevant for each review question when writing the protocols and will consider your suggestions.
Guy's and St Thomas Hospital NHS Foundation Trust	General	General	The scoping questions generally cover the ground of well-established American and European clinical recommendations. What is lacking, especially for the UK, is guidance on the organisation of care to deliver these clinical recommendations to improve outcomes. This NICE document could have a major impact if it were able to offer this guidance.	Thank you for your comment. The remit from NHS England is to develop a guideline on the 'Investigation and management of heart valve disease in adults'. How services are organised is therefore outside of this remit.
Guy's and St Thomas Hospital NHS Foundation Trust	General		We suggest that this document should discuss which healthcare professional should see patients with valve disease. Should the cardiologist/nurse/physiologist have any competencies in valve disease or is a generalist sufficient? How can competencies be defined?	Thank you for your comment. It is outside of the remit of NICE guidelines to specify the competencies a person must have. But if there is evidence of differential effectiveness we may make recommendations on who should deliver the intervention.
Guy's and St Thomas Hospital	General		The clinical consensus is that multidisciplinary teams should care for patients with valve disease ensuring that they see the person with	Thank you for your comment. In accordance with accepted best practice multidisciplinary teams should

Investigation and management of heart valve disease in adults

Consultation on draft scope
Stakeholder comments table

18 February 2019 to 18 March 2019

Comments forms with attachments such as research articles, letters or leaflets cannot be accepted.

Stakeholder	Page no.	Line no.	Comments	Developer's response
NHS Foundation Trust			competencies most appropriate for their condition. We suggest as a question for this document: 'Is care by a multidisciplinary team better than the patient seeing a non-cardiologist or a general cardiologist with no specialist knowledge or experience of valve disease.'	care for people with heart valve disease. As NICE guidelines focus on areas where there is variation in practice or uncertainty we have therefore not included a question on this topic.
Guy's and St Thomas Hospital NHS Foundation Trust	General		Universal consensus is that patients with repairable mitral prolapse should have their operation by a surgeon with competencies in this condition operating in a centre with excellent standards of care. Should this document make this recommendation or is it sufficient for any surgeon to operate according to local availability?	Thank you for your comment. It is outside of the remit of NICE guidelines to specify the competencies a person must have. But if there is evidence of differential effectiveness we may make recommendations on who should deliver the intervention.
Guy's and St Thomas Hospital NHS Foundation Trust	General		What standards should a patient expect in their cardiac centre?	Thank you for your comment. The remit from NHS England is to develop a guideline on the 'Investigation and management of heart valve disease in adults'. Standards of cardiac centres are therefore outside of this remit.
Guy's and St Thomas Hospital NHS Foundation Trust	2	general	Multiple valve disease is common and needs special consideration	Thank you for your comment. This group is not excluded from the scope and when developing protocols the committee will discuss whether to include multiple valve disease as a subgroup where relevant. Subgroups are analysed if there is heterogeneity in the results.
Guy's and St Thomas Hospital NHS Foundation Trust	2	8	Aortic regurgitation as a result of dilatation of the aortic root or ascending aorta needs to be added to the list of secondary valve lesions	Thank you for your comment. We will be considering aortic regurgitation as a result of dilatation of the aortic root or ascending aorta. However, we have not classified this as 'secondary valve disease' as this term is reserved for valve disease secondary to the cardiac

Investigation and management of heart valve disease in adults

Consultation on draft scope
Stakeholder comments table

18 February 2019 to 18 March 2019

Comments forms with attachments such as research articles, letters or leaflets cannot be accepted.

Stakeholder	Page no.	Line no.	Comments	Developer's response
				chambers dilatation rather than secondary dilatation of the aorta.
Guy's and St Thomas Hospital NHS Foundation Trust	2	15	Symptoms are not usually specific to the valve lesion. Most patients with any type of valve disease report breathlessness. More importantly the onset of overt symptoms is commonly heralded by a reduction in exercise capacity. This can be difficult to notice and should be highlighted.	Thank you for your comment. We agree and have changed the wording of the text to say that 'People with heart valve disease may have no symptoms or may have symptoms that can be dependent on the affected valve'. We have also added reduced exercise capacity to the list of symptoms for untreated severe disease.
Guy's and St Thomas Hospital NHS Foundation Trust	3	1	Drugs are not an adequate treatment for symptoms from valve disease. Invasive intervention is indicated by symptoms and medicines are used palliatively if an intervention is not feasible. This is unlike the situation in stable angina where intervention is usually only needed when medicines are failing to control chest pain.	Thank you for your comment. We agree that drugs do not control all of the symptoms or improve prognosis and are not a substitute for intervention. We have edited the phrase to read 'to improve symptoms' with respect to drugs.
Guy's and St Thomas Hospital NHS Foundation Trust	3	25 - 27	This document correctly mentions inequalities since there are many geographical and population specific barriers and inequalities. However this important subject is not addressed in the questions within the scoping document.	Thank you for your comment. The guideline will look at inequalities related to 'access to echocardiography and specialist assessment by geographic location'. This will be a consideration throughout the guideline for all relevant review questions.
Guy's and St Thomas Hospital NHS Foundation Trust	4	9 - 12	The document states that special consideration will be given to patients with bicuspid aortic valve or who are pregnant or at high risk of intervention. However these are not mentioned in the list of questions.	Thank you for your comment. These groups will be considered throughout the guideline for all relevant review questions. For example, evidence may be looked at separately for some groups or the groups may be subgroups if heterogeneity is present. This will be discussed by the committee when defining the review

Investigation and management of heart valve disease in adults

Consultation on draft scope
Stakeholder comments table

18 February 2019 to 18 March 2019

Comments forms with attachments such as research articles, letters or leaflets cannot be accepted.

Stakeholder	Page no.	Line no.	Comments	Developer's response
				protocols.
Guy's and St Thomas Hospital NHS Foundation Trust	5	General	Throughout the document transcatheter procedures are listed as if equivalent to conventional surgery. This suggests a bias in favour of commercial companies who are interested to market transcatheter aortic valves to progressively lower-risk patient groups. The choice of language ('conventional surgery versus transcatheter') is different from that used elsewhere for replacement valves ('mechanical or biological').	Thank you for your comment. We have amended the scope to remove the term 'conventional' and just refer to 'surgery'. We have also made our language consistent by changing 'versus' to 'or' throughout.
Guy's and St Thomas Hospital NHS Foundation Trust	5		The document starts from the situation of suspecting valve disease but about one half are not suspected and may be diagnosed at too late a stage for full recovery of function after intervention. This document should give guidance on when to perform auscultation or to request echocardiography e.g. patients with any cardiac symptom, COPD with disproportionate breathlessness, origin in a country with a high prevalence of rheumatic disease, first degree relatives of probands with bicuspid aortic valve, atrial fibrillation.	Thank you for your comment. We agree that raising awareness of a possible heart valve disease diagnosis is important. Screening does not fall within the remit of clinical guidelines and so we must start from the position of suspected heart valve disease. However, we anticipate that the findings for the first two review questions, which have been reworded, should allow us to make recommendations that will clarify which patients should be considered for echocardiography or specialist assessment based on their presenting assessment with a non-specialist. 1.1 In people with suspected heart valve disease, what symptoms and signs indicate referral (for example from primary care) for echocardiography? 1.2 In people with suspected heart valve disease, what symptoms and signs indicate direct referral (for example from primary care) to a specialist?
Guy's and St	5	22	The treatment of infective endocarditis is not being covered but this	Thank you for your comment. The remit from NHS

Investigation and management of heart valve disease in adults

Consultation on draft scope
Stakeholder comments table

18 February 2019 to 18 March 2019

Comments forms with attachments such as research articles, letters or leaflets cannot be accepted.

Stakeholder	Page no.	Line no.	Comments	Developer's response
Thomas Hospital NHS Foundation Trust			is a condition which is still imperfectly managed and has a 20% inpatient mortality rate.	England is to develop a guideline on the 'Investigation and management of heart valve disease in adults'. The management of infective endocarditis is outside of this remit.
Guy's and St Thomas Hospital NHS Foundation Trust	8	22 - 29	Medical management is not usually an equal alternative to intervention except in specific groups for example the elderly with many comorbidities. This questions needs to be refined.	Thank you for your comment. We agree that medical management is not an alternative to intervention and the population will be refined by the committee, for example to specify it is people for whom intervention is not appropriate or has been declined, or as bridging therapy while waiting for intervention.
Guy's and St Thomas Hospital NHS Foundation Trust	8 - 9	Section 5.1	The question needs to be refined since for example anticoagulation is essential with a mechanical valve replacement and a cost-effectiveness comparison against aspirin or no therapy is not relevant	Thank you for your comment. We have clarified the wording of question 5.1 as follows: What is the clinical and cost effectiveness of anticoagulant and antiplatelet therapy for people with transcatheter or surgically placed biological prosthetic valves? We have removed mechanical valves from the question as these always need anticoagulation. However, we will cross refer to NICE guidance DG14 (Atrial fibrillation and heart valve disease: self-monitoring coagulation status using point-of-care coagulometers) for people with mechanical valves.
Guy's and St Thomas Hospital NHS Foundation Trust	9	Section 6.1	Monitoring is usually with symptoms and echocardiography while BNP and other biomarkers may be helpful but are not used routinely.	Thank you for your comment. We will consider these points when defining the review protocol for this question.

Investigation and management of heart valve disease in adults

Consultation on draft scope
Stakeholder comments table

18 February 2019 to 18 March 2019

Comments forms with attachments such as research articles, letters or leaflets cannot be accepted.

Stakeholder	Page no.	Line no.	Comments	Developer's response
Guy's and St Thomas Hospital NHS Foundation Trust	9	10	Monitoring after surgery depends on the type of surgery	Thank you for your comment. We will take this into account when writing the review protocol for this question.
Guy's and St Thomas Hospital NHS Foundation Trust	9	18	Other outcomes are endocarditis, stroke, and bleeding	Thank you for your comment. We cannot list all relevant outcomes in the scope and those listed are just the main, overarching outcome measures. We will define outcomes relevant for each review question when writing the protocols and will consider your suggestions.
Livanova UK Limited	5	12	We propose that there should be consideration not only for conventional surgery and transcatheter interventions, but also for sutureless valves (as per your recently released updated guidance IPG 624). We reference the few most relevant papers: a) Glauber et al, "International Expert Consensus on Sutureless and Rapid Deployment Valves in Aortic Valve Replacement Using Minimally Invasive Approaches", Innovations 2016;11:165Y173 b) Gersak et al, "Sutureless, rapid deployment valves and stented bioprosthesis in aortic valve replacement: recommendations of an International Expert Consensus Panel", European Journal of Cardio-Thoracic Surgery (2015) 1–10, doi:10.1093/ejcts/ezv369 c) Powell, R., et al., "The Perceval Sutureless Aortic Valve: Review of Outcomes, Complications, and Future Direction". Innovations: Technology and Techniques in Cardiothoracic and Vascular Surgery, 2017. 12(3): p. 155-173.	Thank you for your comment. Sutureless valves are not excluded from the scope and this level of detail for interventions will be specified within the review protocols which will be written with the committee.

Investigation and management of heart valve disease in adults

Consultation on draft scope
Stakeholder comments table

18 February 2019 to 18 March 2019

Comments forms with attachments such as research articles, letters or leaflets cannot be accepted.

Stakeholder	Page no.	Line no.	Comments	Developer's response
Livanova UK Limited	8	22 - 26	We believe that there should be consideration for both clinical and cost effectiveness not only between the Transcatheter and surgical interventions with conservative management but also between Transcatheter and surgical interventions e.g. TAVI versus Sutureless valves. There have been studies published recently which have made this comparison notably: a) M. Povero et al ; Cost-utility of surgical sutureless bioprostheses versus TAVI in aortic valve replacement for patients at intermediate and high surgical risk ClinicoEconomics and Outcomes Research 2018:10 733–745 b) M. Meco et al ; Sutureless aortic valve replacement versus Transcatheter aortic valve implantation: a meta-analysis of comparative matched studies using propensity score matching Interactive Cardiovascular and Thoracic Surgery (2017) 1–8 c) Santarpino, G., et al., Clinical outcome and cost analysis of sutureless versus transcatheter aortic valve implantation with propensity score matching analysis. The American journal of cardiology, 2015. 116(11): p. 1737-1743 In addition we propose that NICE should analyse and establish a cost effectiveness/cost minimization comparison between conventional surgery and sutureless valves, most notably highlighted in the following papers: a) Santarpino et al. "The Perceval S aortic valve has the potential of shortening surgical time: does it also result in	Thank you for your comment. The wording of the question has been changed so that transcatheter and surgical interventions can also be compared to each other. Sutureless valves are not excluded from the scope and this level of detail for interventions will be specified within the review protocols, which will be written with the committee.

Investigation and management of heart valve disease in adults

Consultation on draft scope
Stakeholder comments table

18 February 2019 to 18 March 2019

Comments forms with attachments such as research articles, letters or leaflets cannot be accepted.

Stakeholder	Page no.	Line no.	Comments	Developer's response
			improved outcome?" Ann Thorac Surg. 2013; 96:77-81 b) Pollari et al. "Better short-term outcome by using sutureless valves: a propensity-matched score analysis" Ann Thorac Surg. 2014; 98:611-6. c) Minami, T., et al., "Hospital cost savings and other advantages of sutureless vs stented aortic valves for intermediate-risk elderly patients". Surgery today, 2017 d) Laborde, F., et al., "Sutureless Valves Reduce Hospital Costs Compared to Traditional Valves". The Journal of heart valve disease, 2017. 26(1): p. 1.	
Livanova UK Limited	8	22 - 26	We would recommend clarity regarding the responsibility of the Multidisciplinary Team (MDT) to ensure that the right patient receives the right intervention whether Transcatheter or surgical intervention for their age and condition.	Thank you for your comment. In accordance with accepted best practice multidisciplinary teams should care for people with heart valve disease. As NICE guidelines focus on areas where there is variation in practice or uncertainty we have therefore not included a question on this topic. Our recommendations will consider different population groups and subgroups as appropriate, such as age and surgical risk.
Livanova UK Limited	9	19 - 27	Will there be consideration or inclusion of major adverse cardiac and cerebrovascular events (MACCE) as per S Sabete et al original publication in the British Journal of Anaesthesia 'Incidence and predictors of major perioperative adverse cardiac and cerebrovascular events in non-cardiac surgery' https://academic.oup.com/bja/article/107/6/879/345883 ?	Thank you for your comment. We cannot list all relevant outcomes here and those listed are just the main, overarching outcome measures. We will define outcomes relevant for each review question when writing the protocols and will consider your suggestion.
Medtronic	General	General	Thank you for the opportunity to comment on the draft scope for the new clinical guideline on Diagnosis and Management of Heart Valve	Thank you for your comment.

Investigation and management of heart valve disease in adults

Consultation on draft scope
Stakeholder comments table

18 February 2019 to 18 March 2019

Comments forms with attachments such as research articles, letters or leaflets cannot be accepted.

Stakeholder	Page no.	Line no.	Comments	Developer's response
			Disease.	
Medtronic	1	26	We suggest the addition of the word "otherwise" to the following sentence: "Primary disease affects the valve structure whereas secondary disease results from enlargement or dysfunction of the heart chambers (atria or ventricles) with **otherwise** normal mitral or tricuspid valve function."	Thank you for your comment. We have made the edit you suggest but have also changed the sentence to read **'**normal mitral or tricuspid valve structure'. This is to reflect the fact that in secondary disease the valve does not have normal function (because of the enlargement or dysfunction of the heart chambers) but has 'otherwise' normal 'structure'.
Medtronic	2	19 - 20	For clarity, we recommend the addition of "or dilate" to the following sentence: "In the older population heart valves stiffen **or dilate** as part of the ageing process, making dysfunction more likely."	Thank you for your comment. We understand that valves do not dilate; they narrow (stenosis) or leak (regurgitation) and so have not changed the text.
Medtronic	3	3	Anticoagulants are not really used for valve related "symptoms". In relation to native valvular disease they are indicated for clotting prophylaxis in the presence of associated arrhythmias.	Thank you for your comment. We have edited and moved this text. The sentence now appears later in the paragraph and reads: 'Anticoagulants are prescribed as prophylaxis after surgery or transcatheter intervention, and to reduce the risk of thrombosis associated with comorbidities.'
Medtronic	4	9 - 12	In relation to TAVI, we are aware the scoping workshop involved discussions around stratification of patients and the scope document indicates that the decision has been taken not to stratify based on patient risk due to a clinical expectation that low risk patients will be routinely treated with TAVI by 2021 when the guideline will be published. However, the randomised clinical trial data for TAVI has been	Thank you for your comment. Regarding operative risk for TAVI, this level of detail will be considered by the committee when defining the review protocol and the current scope does not preclude us from stratifying the data in this way.

Investigation and management of heart valve disease in adults

Consultation on draft scope
Stakeholder comments table

18 February 2019 to 18 March 2019

Comments forms with attachments such as research articles, letters or leaflets cannot be accepted.

Stakeholder	Page no.	Line no.	Comments	Developer's response
			designed according to patient risk and therefore may cause problems for the committee and health economists in their decision making and economic modelling. We are also aware that the Incremental Cost Effectiveness Ratio is affected across the patient risk groups; Inoperable, High Risk, Intermediate Risk and Low Risk. We therefore recommend that the guideline scope does allow for risk stratification of patient groups.	
Medtronic	5	12	We suggest including a sub-category below "Approach (conventional surgery versus transcatheter intervention)" to also account for the different approaches for TAVI, such as transfemoral, transapical and sub-clavian.	Thank you for your comment. This level of detail of interventions will be specified within the review protocols which will be written with the committee.
Medtronic	5	20	It is understandable and clear that pulmonary valve disease is out of scope given that it is typically congenital however it is also important to clarify that both pulmonary and tricuspid valves can be subject to acquired disease, e.g. rheumatic heart disease and therefore may be deemed within scope of this CG.	Thank you for your comment. Because tricuspid stenosis and pulmonary valve disease present so rarely in adults it was decided that they should not be prioritised for inclusion as they would always only be seen by experts in tertiary centres. Other heart valve disease caused by rheumatic fever will be included in the guideline. We have changed the title of the guideline to 'presenting' in adults to explain why bicuspid valve disease is included.
Medtronic	8	1 - 6	The NHS long term plan recommends that more patients with HVD should be diagnosed in the primary care setting with "greater access to echocardiography in primary Care…those with breathlessness." We therefore believe it would be appropriate for this CG scope to align with this plan.	Thank you for your comment. Service delivery is outside of the remit for this guideline. However, we hope that primary care diagnosis will be supported by the findings from our first two review questions, which have been reworded as follows: 1.1 In people with suspected heart valve disease, what

Investigation and management of heart valve disease in adults

Consultation on draft scope
Stakeholder comments table

18 February 2019 to 18 March 2019

Comments forms with attachments such as research articles, letters or leaflets cannot be accepted.

Stakeholder	Page no.	Line no.	Comments	Developer's response
				symptoms and signs indicate referral (for example from primary care) for echocardiography? 1.2 In people with suspected heart valve disease, what symptoms and signs indicate direct referral (for example from primary care) to a specialist?
Medtronic	8	18	It may be helpful to provide some clarity on the meaning of "findings" for example, does this include non-symptomatic observations such as hemodynamic parameters such as cross valve velocity, gradient, LVEF % and orifice area as per the AHA/ACC and ESC/EACTS guidelines?	Thank you for your comment. We anticipate that these non-symptomatic observations will be included and will be detailed within the review protocols when they are drafted by the committee. **Please note that the review question has been reworded as follows: What are the indications that interventions should be offered to people with symptomatic and asymptomatic heart valve disease?**
Medtronic	8	23 - 24	The draft scope clearly states that transcatheter intervention or surgery will be compared with conservative management however the comparison of TAVI versus conventional surgery is not explicitly included.	**Thank you for your comment. We intend to include this comparison and have amended the wording of the review question to make this explicit.**
Medtronic	8	27 - 29	Please clarify that 4.2 should include the degeneration of both surgical and transcatheter prosthetic valves.	Thank you for your comment. We have reworded this question to clarify the comparison as follows: What is the clinical and cost effectiveness of repeat transcatheter or surgical valve intervention for prosthetic biological valve degeneration following initial transcatheter or surgical intervention? The intention is to cover repeat intervention for degeneration of surgical biological or transcatheter valves.

Investigation and management of heart valve disease in adults

Consultation on draft scope
Stakeholder comments table

18 February 2019 to 18 March 2019

Comments forms with attachments such as research articles, letters or leaflets cannot be accepted.

Stakeholder	Page no.	Line no.	Comments	Developer's response
Medtronic	9	1 - 3	We wish to flag that there is no clear clinical consensus on antithrombotic and antiplatelet therapy for biological valves (either transcatheter or surgical) and therefore it may be ambitious to expect a committee to develop guidance on this aspect.	Thank you for your comment. By including biological valves within the review we will be able to identify any available evidence and discuss the expert experience and opinion of the committee. If no evidence- or consensus-based recommendation can be made the committee may choose to make a recommendation for future research in this area.
Medtronic	9	19 - 27	We recommend that the scope also includes the following outcomes which are likely to be relevant to the committee and importantly the health economists as many will have cost and Quality of Life implications • Haemodynamic improvement • Symptom Relief • Infection • All-cause mortality vs. cardiovascular mortality • ICU Stay • Re-hospitalisation for heart failure • Discharge to Home • Acute Kidney Injury • Rehabilitation • Deep Sternal Wound Infection • Transfusion of red cells • Return to Theatre for bleeding We would also like to flag that NICE may wish to account for the	Thank you for your comment. We cannot list all relevant outcomes here and those listed are just the main, overarching outcome measures. We will define outcomes relevant for each review question when writing the protocols and will consider your suggestions.

Investigation and management of heart valve disease in adults

Consultation on draft scope
Stakeholder comments table

18 February 2019 to 18 March 2019

Comments forms with attachments such as research articles, letters or leaflets cannot be accepted.

Stakeholder	Page no.	Line no.	Comments	Developer's response
			Heater-Cooler infection risk that is observed during/following cardiac surgery. This has been a key focus of the MHRA and Public Health England in recent years resulting in field actions and changes to cleaning and sampling guidelines which now pose substantial financial burden on NHS perfusion budgets.	
Medtronic	11	Flowchart	We wish to highlight that medical management has proven not to alter the disease trajectory of aortic stenosis and therefore the "medical management" step within this patient pathway may not be representative of the standard of care for aortic stenosis.	Thank you for your comment. This pathway is intended as a general overview for all types of heart valve disease and cannot capture all of the detail. However, we will be looking at the evidence for the effectiveness of medical management in aortic stenosis and so will be able to make recommendations on this in line with any evidence we find. We have amended the pathway outline to make clear that medical management is of symptoms, rather than a step within the treatment pathway.
NHS England	3	24	The section on inequalities may not be robust enough to ensure that the guideline addresses equity of access to echocardiography and specialist assessment. It is not simply access to a 'valve clinic'. NHS England would suggest rewording to something like "access to echocardiography and specialist assessment by geographic location" or add another bullet point to ensure equity of access to early diagnosis is in scope. (KJ)	Thank you for your comment. We agree and have made the change suggested.
NHS England	4	7	The word 'bicuspid' should read 'pulmonary'. (KJ)	Thank you for your comment. We realise that our wording was unclear but pulmonary valve disease is excluded from the scope because it is a rare presentation. We have amended the text to clarify that we will cover adults (18 and over) with diagnosed heart

Investigation and management of heart valve disease in adults

Consultation on draft scope
Stakeholder comments table

18 February 2019 to 18 March 2019

Comments forms with attachments such as research articles, letters or leaflets cannot be accepted.

Stakeholder	Page no.	Line no.	Comments	Developer's response
				valve disease (aortic [including bicuspid] stenosis and regurgitation, mitral stenosis and regurgitation, tricuspid regurgitation).
Roche Diagnostics Limited	General	General	There is clinical and cost-effectiveness evidence (DG14) that supports the use of point-of-care self-monitoring technologies in atrial fibrillation and heart valve disease which is listed on the NICE website.[1,2] A technical supplement was recently published by NICE as an addendum to the diagnostics guidance.[3] This provides updated information on the available technologies and we therefore believe that the reader of the guideline would benefit from a summary of these guidelines around the option of patient self-monitoring. Please see the references below which support the use of patient self-monitoring: 1. National Institute for Health and Care Excellence. NICE. DG14. Atrial fibrillation and heart valve disease: self-monitoring coagulation status using point-of-care coagulometers (the CoaguChek XS system). https://www.nice.org.uk/guidance/dg14 [Accessed 4th July 2018] 2. Craig J. A., Chaplin S., Jenks M. Warfarin monitoring economic evaluation of point of care self-monitoring compared to clinic settings. Journal of Medical Economics. 2014;17(3):184–90. 3. National Institute for Health and Care Excellence. NICE. Technical supplement: Summary of main changes to the CoaguChek XS.	Thank you for your comment. This guideline will cross-refer to the relevant NICE guidance on self-monitoring (DG14). The NICE Pathway on heart valve disease will include recommendations from both the published guideline and the diagnostics guidance (see pathway outline in the scope).

Investigation and management of heart valve disease in adults

Consultation on draft scope
Stakeholder comments table

18 February 2019 to 18 March 2019

Comments forms with attachments such as research articles, letters or leaflets cannot be accepted.

Stakeholder	Page no.	Line no.	Comments	Developer's response
			systemhttps://www.nice.org.uk/guidance/dg14/resources/summary-of-the-main-changes-to-the-coaguchek-xs-system-pdf-4844245789 [Accessed 4th July 2018]	
Roche Diagnostics Limited	5	16	We would support the inclusion of patient self-monitoring for warfarin therapy in this section. Evidence suggests that patients with mechanical heart valve who self-monitor and specifically self-manage their oral anticoagulation with Vitamin K antagonists have a significant reduction in both thromboembolic and major haemorrhagic events compared to usual care.[1] References: Heneghan C, Alonso-Coello P, Garcia-Alamino JM, et al: Self-monitoring of oral anticoagulation: a systematic review and meta-analysis. Lancet 367:404–411, 2006	Thank you for your comment. We will not be addressing self-monitoring in the guideline but will cross-refer to the existing NICE diagnostics guidance on self-monitoring (DG14).
Roche Diagnostics Limited	5	16	There is also economic evidence that supports the use of patient self-monitoring in this setting. Economic evaluations have shown that patient self-monitoring (PSM) can reduce healthcare costs over time compared with usual care and care in the anticoagulation clinic[1-3] and alleviate the increasing burden of anticoagulation care on the healthcare system.[1,4] Cost savings in PSM are achieved by increasing the time spent in the therapeutic range, thereby reducing the number of treatment complications.[5] An economic evaluation in the United Kingdom reported that switching Vitamin K Antagonist (VKA) patients to patient self-testing (PST) or PSM would reduce treatment costs by ~40% compared	Thank you for your comment. We will not be addressing self-monitoring in the guideline but will cross-refer to the existing NICE diagnostics guidance on self-monitoring (DG14).

Investigation and management of heart valve disease in adults

Consultation on draft scope
Stakeholder comments table

18 February 2019 to 18 March 2019

Comments forms with attachments such as research articles, letters or leaflets cannot be accepted.

Stakeholder	Page no.	Line no.	Comments	Developer's response
			with usual care over 10 years. Switching 10% of warfarin patients to PST/PSM could save the NHS £112 million over 10 years.[1] References: 1. Craig J. A., Chaplin S., Jenks M. Warfarin monitoring economic evaluation of point of care self-monitoring compared to clinic settings. Journal of Medical Economics. 2014;17(3):184–90. 2. Phibbs et al (2016). At-Home Versus In-Clinic INR Monitoring: A Cost–Utility Analysis from The Home INR Study (THINRS) J Gen Int Med 31:1061–1067 3. Medical Advisory Secretariat (2009). Ontario Health Technology Assessment Series 9:12. Available: http://www.hqontario.ca/Portals/0/Documents/evidence/reports/rev_poc_20090928.pdf - Last accessed October 2016 4. Ryan et al (2009). Randomized controlled trial of supervised patient self-testing of warfarin therapy using an internet-based expert system. J Thromb Haemost 7:1284–1290 5. Bussey (2011). Transforming oral anticoagulation by combining international normalized ratio (INR) self-testing and online automated management. J Thromb Thrombolysis 31:265–274	
Roche Diagnostics Limited	9	6 - 9	Plasma B-type natriuretic peptide (BNP) and its N-terminal pro-form (NT-proBNP) are well-known predictors in heart failure. NT-proBNP adds important incremental prognostic information that is useful for valve patient management and for optimal timing of surgery in	Thank you for your comments and helpful information. We will consider these points and references when writing the review protocol for this question.

Investigation and management of heart valve disease in adults

Consultation on draft scope
Stakeholder comments table

18 February 2019 to 18 March 2019

Comments forms with attachments such as research articles, letters or leaflets cannot be accepted.

Stakeholder	Page no.	Line no.	Comments	Developer's response
			particular. Diastolic stretch induces cardiomyocyte BNP expression in volume-loaded conditions like aortic or mitral regurgitation (MR) or pressure-loaded conditions like aortic stenosis (AS). Cardiac decompensation is reflected by increased NT-proBNP in AS and in MR. Repeated marked increases in natriuretic peptides are a potential indication for valve replacement in severe asymptomatic AS with normal ejection fraction and exercise test results. High NT-proBNP level also predicts postoperative outcome. Increased NT-proBNP level is associated with low-flow AS, impaired left ventricular longitudinal strain, and myocardial fibrosis. The BNP ratio to the reference value for age and sex incrementally predicts mortality in AS. Increased NT-proBNP reflects the haemodynamic consequences of MR and is associated with exercise-induced pulmonary-arterial hypertension and reduced contractile reserve. In severe primary MR, increased and serially increasing BNP or N-terminal pro-form BNP might be helpful in guiding early mitral replacement. In conclusion, baseline (N-terminal pro-form) BNP should be obtained in all severe valve disease patients and interpreted together with clinical and echocardiography findings. Very high NT-proBNP values are associated with increased mortality and should lead to close monitoring peri- and postoperatively. Progressively	

Investigation and management of heart valve disease in adults

Consultation on draft scope
Stakeholder comments table

18 February 2019 to 18 March 2019

Comments forms with attachments such as research articles, letters or leaflets cannot be accepted.

Stakeholder	Page no.	Line no.	Comments	Developer's response
			increasing NT-proBNP in asymptomatic patients points to advancing valve disease. Patients with AS or MR have higher preoperative NT-proBNP than Coronary Artery Disease (CAD) patients even after adjusting for confounders. The predictive value of NT-proBNP with regard to severe postoperative heart failure (SPHF) was confirmed in CAD and MR patients but was less convincing in AS patients. References: 1. The Role of Biomarkers in Valvular Heart Disease: Focus on Natriuretic Peptides Bergler-Klein, Jutta et al.Canadian Journal of Cardiology ,2014, Volume 30 , Issue 9 , 1027 - 1034 2. Gardezi SK, Coffey S, Prendergast BD, et al Serum biomarkers in valvular heart disease Heart 2018;104:349-358. 3. Meta-Analysis of Impact of Baseline N-Terminal Pro-Brain Natriuretic Peptide Levels on Survival After Transcatheter Aortic Valve Implantation for Aortic Stenosis Takagi, Hisato et al. American Journal of Cardiology , Volume 123 , Issue 5 , 820 - 826 4. Magnus Bäck, Rodolfo Pizarro, Marie-Annick Clavel,Biomarkers in Mitral Regurgitation, Progress in Cardiovascular Diseases, Volume 60, Issue 3,2017,Pages 334-341, ISSN 0033-0620,https://doi.org/10.1016/j.pcad.2017.11.004.	

Investigation and management of heart valve disease in adults

Consultation on draft scope
Stakeholder comments table

18 February 2019 to 18 March 2019

Comments forms with attachments such as research articles, letters or leaflets cannot be accepted.

Stakeholder	Page no.	Line no.	Comments	Developer's response
			(http://www.sciencedirect.com/science/article/pii/S003306201730155X) 5. Kaneko, H., Hoelschermann, F., Tambor, G. et al. Impact of N-terminal pro-B-type natriuretic peptide response on long-term prognosis after transcatheter aortic valve implantation for severe aortic stenosis and heart failure, Heart Vessels (2018). https://doi.org/10.1007/s00380-018-1297-z 6. Impact of underlying heart disease per se on the utility of preoperative NT-proBNP in adult cardiac surgery; Jiang H, Hultkvist H, Holm J, Vanky F, Yang Y, et al. (2018) Impact of underlying heart disease per se on the utility of preoperative NT-proBNP in adult cardiac surgery. PLOS ONE 13(2): e0192503. https://doi.org/10.1371/journal.pone.0192503 7. Prognostic Value of NT-proBNP and an Adapted Monin Score in Patients With Asymptomatic Aortic Stenosis, Rev Esp Cardiol. 2014;67:52-7 - Vol. 67 Num.01 DOI: 10.1016/j.rec.2013.06.020	
Royal College of Radiologists	General	General	The use of CTA to plan for TAVI (and increasingly for novel MV repair techniques). Initially TAVI planning scans that assess aortic root dimensions in detail to plan prosthesis size as well as whole arterial tree to groins to plan access were a final gatekeeper in the pathway but there has been a shift to asking for 'TAVI CT' much earlier in the process as part of 'screening' prior to any MDT discussion and many patients getting TAVI CT now never actually	Thank you for your comment. The use of CT angiography will be included within question 1.5 (In people with heart valve disease what is the predictive accuracy and cost effectiveness of cardiac MRI and cardiac CT to determine the need for intervention?). The protocol for this review question will include CTA so the evidence for this will be reviewed and the guideline

Investigation and management of heart valve disease in adults

Consultation on draft scope
Stakeholder comments table

18 February 2019 to 18 March 2019

Comments forms with attachments such as research articles, letters or leaflets cannot be accepted.

Stakeholder	Page no.	Line no.	Comments	Developer's response
			go on to TAVI. There is further 'mission creep' that many risk averse surgeons are requesting CTA prior to operation in patients listed for surgical AV replacement for which I don't think there is good evidence.	committee will make recommendations as appropriate.
Royal College of Radiologists	7 - 9		The Key Clinical Issues Section does not have any specific mention of the aortopathy that often exists in combination with aortic valve disease, especially for patients with bicuspid aortic valve (by far the most common congenital heart disease - affecting 2% of the population) who very often have aortopathy in terms of aneurysm of AA, are prone to complication of dissection and may have associated coarctation. There is an increasing demand for monitoring of aortic dimensions to time intervention but no good guidance as to modality and frequency.	Thank you for your comment. Aortic dimension will be included within the protocol for the review question about the predictive accuracy of cardiac MRI and cardiac CT to determine the need for intervention.