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OFFICE OF CLINICAL INTEGRATION AND EVIDENCE-BASED PRACTICE

Evidence-Based Practice Summary

Screening for High Blood Pressure and Follow-up Documentation

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BACKGROUND AND RATIONALE

The Physician Quality Reporting System (PQRS 317, 2015) requires screening all patients aged 18 years and older for high blood pressure (BP) and documentation of a follow-up plan for patients with a recorded high BP. PQRS cites the 2003 Joint National Committee on Prevention, Detection, Evaluation and Treatment of High Blood Pressure (JNC 7) recommendations for BP screening intervals, lifestyle modifications, and interventions based on the patient's current BP reading. In 2014, the Joint National Committee (JNC 8) released an updated guideline on the prevention and management of hypertension. Unlike JNC 7, JNC 8 does not define prehypertension or make recommendations on follow-up for prehypertensive patients. In comparison, JNC 7 recommends rescreening prehypertensive patients (systolic BP of 120 – 139 mmHg, diastolic BP of 80 – 89 mmHg) every year and lifestyle modifications including: (1) Weight Reduction; (2) Dietary Approaches to Stop Hypertension (DASH) Eating Plan; (3) Dietary Sodium Restriction; (4) Increased Physical Activity; and/or (5) Moderation in alcohol (ETOH) Consumption. For patients with a Systolic BP >/= 140 mmHg or Diastolic BP >/= 90 mmHg, the JNC 7 recommends the following interventions: (1) Anti-Hypertensive Pharmacologic Therapy; (2) Laboratory Tests; and/or (3) Electrocardiogram (ECG). Due to the fact that PQRS currently follows JNC 7 recommendations, we have included both guidelines in this evidence brief. Additionally, we have included a guideline comparison table on pages 7 – 9 for further information.

PQRS's blood pressure recommendations:

- **Normal BP:** No follow-up required for Systolic BP <120 mmHg AND Diastolic BP <80 mmHg
- **Pre-Hypertensive BP:** Follow-up with rescreen every year with systolic BP of 120 – 139 mmHg or diastolic BP of 80 – 89 mmHg AND recommended lifestyle modifications OR referral to Alternative/Primary Care Provider
- **First Hypertensive BP Reading:** Patients with one elevated reading of systolic BP >=140 mmHg OR diastolic BP >= 90 mmHg:
  - Follow-up with rescreen >1 day and <4 weeks AND recommend lifestyle modifications OR referral to Alternative/Primary Care Provider
- **Second Hypertensive BP Reading:** Patients with second elevated reading of systolic BP >= BP 140 mmHg OR diastolic BP >= 90 mmHg:
  - Follow-up with Recommended lifestyle modifications AND one or more of the Second Hypertensive Reading Interventions OR referral to Alternative/Primary Care Provider

This is in reaction to the fact that hypertension affects approximately 66.9 million people in the United States. It is estimated that about 20-40% of the adult population has hypertension; the majority of people over age 65 have a hypertension diagnosis (Appleton SL, et. al., 2012 and Luehr D, et. al., 2012). Winter

(2013) noted that 1 in 3 American adults have hypertension and the lifetime risk of developing hypertension is 90% (Winter KH, et. al., 2013). The African American population or non-Hispanic Blacks, the elderly, diabetics and those with chronic kidney disease are at increased risk of stroke, myocardial infarction and renal disease. Non-Hispanic Blacks have the highest prevalence at 38.6% (Winter KH, et. al., 2013). Hypertension is a major risk factor for ischemic heart disease, left ventricular hypertrophy, renal failure, stroke and dementia (Luehr D, et. al., 2012).

Hypertension is the most common reason for adult office visits other than pregnancy. Garrison (2013) stated that in 2007, 42 million ambulatory visits were attributed to hypertension (Garrison GM and Oberhelman S, 2013). It also has the highest utilization of prescription drugs. Numerous resources and treatment options are available, yet only about 40-50% of the hypertensive patients have their blood pressure under control (<140/90) (Appleton SL, et. al., 2012, Luehr D, et. al., 2012). In addition to medication non-compliance, poor outcomes are also attributed to poor adherence to lifestyle changes such as a low-sodium diet, weight loss, increased exercise and limiting alcohol intake. Many adults find it difficult to continue medications and lifestyle changes when they are asymptomatic. Symptoms of elevated blood pressure usually do not occur until secondary problems arise such as with vascular diseases (myocardial infarction, stroke, heart failure and renal insufficiency) (Luehr D, et. al., 2012).

Appropriate follow-up and documentation after blood pressure measurement is a pivotal component in preventing the progression of hypertension and the development of heart disease. Detection of marginally or fully elevated blood pressure by a specialty clinician warrants referral to a provider familiar with the management of hypertension and prehypertension. Lifestyle modifications have demonstrated effectiveness in lowering blood pressure (JNC 7, 2003). The synergistic effect of several lifestyle modifications results in greater benefits than a single modification alone. Baseline diagnostic/laboratory testing establishes if a co-existing underlying condition is the etiology of hypertension and evaluates if end organ damage from hypertension has already occurred.

ASK THE QUESTION

In patients 18 years and older with systolic blood pressure >140 mmHg or diastolic blood pressure >90 mmHg, what are the most effective tools and strategies for documenting screening and follow-up in the electronic health record?

SEARCH FOR EVIDENCE

Databases included Ovid MEDLINE, Cochrane Database of Systematic Reviews, PsycINFO, and National Guideline Clearinghouse, also looked at references and citing articles

1. exp hypertension/di, pc (18420)
2. exp blood pressure determination/ (17265)
3. 1 or 2 (31256)
4. exp hypertension/ (115305)
5. exp blood pressure/ (122877)

6. exp Sphygmomanometers/ (1757)
7. 4 or 5 or 6 (203508)
8. exp mass screening/ (81010)
9. 7 and 8 (1441)
10. 3 or 9 (32019)
11. exp data collection/ (1451273)
12. ((collect* or aggregat* or gather*) adj3 (data or information*)).mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] (269921)
13. 11 or 12 (1590188)
14. exp medical informatics applications/ (337776)
15. exp Medical Records Systems, Computerized/ (29630)
16. 14 or 15 (346167)
17. 10 and 13 and 16 (307)
18. ((((keep* or kept) adj3 track*) or monitor* or progress* or document* or record* or observ* or enter* or entry) adj10 (detect* or diagno* or sign* or symptom* or presen* or (routin* adj2 test*) or screen* or find* or found or uncover* or realiz*) adj7 (hypertens* or ((elevat* or high* or reduc* or low*) adj3 blood pressur))).mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] (2818)
19. 16 and 18 (65)
20. ((((keep* or kept) adj3 track*) or monitor* or progress* or document* or record* or observ* or enter* or entry) adj10 (detect* or diagno* or sign* or symptom* or presen* or (routin* adj2 test*) or screen* or find* or found or uncover* or realiz*) adj10 (((electronic* or computer*) adj5 (health* or patient* or case* or medical) adj5 (record* or file* or document*)) or ehr or ehrs)).mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] (2568)
21. 10 and 20 (28)
22. 17 or 19 or 21 (359)
23. limit 22 to humans (355)
24. limit 23 to english language (331)
25. limit 23 to abstracts (327)
26. 24 or 25 (348)

Filters/limits included research articles published in English in the last 10 years

CRITICALLY ANALYZE THE EVIDENCE

Only one article directly addressed the clinical question regarding improving screening documentation for patients with high blood pressure. The cluster-randomized trial (Bardach, 2013) included, studied the effect of pay-for-performance incentives on the quality of electronic health record (EHR) documentation on performance measures. The study found that intervention clinics receiving pay-for-performance incentives and quarterly performance reports had greater adjusted absolute improvement on blood pressure control documentation (no comorbidities: 9.7% vs 4.3% difference: 5.5% [95% CI, 1.6% to 9.3%] P = .01 for interaction term.
Quality of Evidence: Low

No studies were found on improving documentation for follow-up with patients with recorded high blood pressure.

PICO Question: In patients 18 years and older with systolic blood pressure >140 mmHg or diastolic blood pressure >90 mmHg, what are the most effective tools and strategies for documenting screening and follow-up in the electronic health record?

Outcome: Increase Blood Pressure Screening and Follow-up Documentation in EHR

Author/Date	*Purpose of Study*	*Study Design & Methods*	*Sample*	*Outcomes*	*Design Limitations*
Total # of Studies: 1 # of Systematic Reviews: 0 # of RCTs: 1 # of Non-Randomized Studies: 0; # of Diagnostic Studies: 0					
Bardach, 2013, *JAMA*	To assess the effect of pay-for-performance incentives on quality in EHR-enabled practices in the context of an established quality improvement initiative	A cluster-randomized trial of primary care clinics in New York City from April 2009 through March 2010. Participating clinics were randomized to either an intervention group receiving financial incentives and benchmarked quarterly reports of their performance or a control group receiving only quarterly reports. Incentivized clinics that met the performance criteria received higher payments for patients with comorbidities, who had Medicaid insurance, or who were insured (maximum payments: $200/patient; $100,000/clinic).	42 clinics with a mean of 4,592 patients at the intervention group clinics and 3,042 at the control group clinics.	Intervention clinics had greater adjusted absolute improvement in blood pressure control (no comorbidities: 9.7% vs 4.3% difference: 5.5% [95% CI, 1.6% to 9.3%] P = .01 for interaction term.	Study Limitations = ☐ None ***RCTS*** ☒ Lack of blinding ☐ Lack of allocation concealment ☐ Stopped early for benefit ☐ Incorrect analysis of ITT ☐ Selective reporting of measures (e.g., no effect outcome) ☐ Large losses to F/U ☐ Difference in important prognostic factors at baseline

Lower Quality Rating if:
☐ Studies inconsistent (*wide variation of treatment effect across studies, populations, interventions, or outcomes varied)*

☐ Studies are indirect *(PICO question is quite different from the available evidence in regard to population, intervention, comparison, or outcome)*

☐ Studies are imprecise (*When studies include few patients and few events and thus have wide confidence intervals and the results are uncertain)*

						☐ Publication Bias *(e.g. pharmaceutical company sponsors study on effectiveness of drug, only small, positive studies found)* Increase Quality Rating if: ☐ Large Effect ☐ Dose-response gradient ☐ Plausible confounders or other biases increase certainty of effect Quality (certainty) of evidence for studies as a whole: ☐ High ☐ Moderate ☒ Low ☐ Very Low

The GRADE criteria were used to evaluate the quality of evidence presented in research articles reviewed during the development of this guideline. For more detailed information, see Appendix A.

Guideline Recommendations:

In 2003, the **Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC 7)** released an updated report on the prevention and management of hypertension. The key messages of this report are:

- In those older than age 50, systolic blood pressure (SBP) of >140mmHg is a more important cardiovascular disease (CVD) risk factor than diastolic BP (DBP);
- Beginning at 115/75 mmHg, CVD risk doubles for each increment of 20/11 mmHg;
- Those who are normotensive at 55 years of age will have a 90 percent lifetime risk of developing hypertension;

- Pre-hypertensive individuals (SBP 120-139 mmHg or DBP 80-89 mmHg) require health-promoting lifestyle modifications to prevent the progressive rise in blood pressure and CVD;
- For uncomplicated hypertension, thiazide diuretic should be used in drug treatment for most, either alone or combined with drugs from other classes;
- This report delineates specific high-risk conditions, which are compelling indications for the use of other antihypertensive drug classes (angiotensin-converting enzyme inhibitors, angiotensin-receptor blockers, beta blockers, calcium channel blockers);
- Two or more antihypertensive medications will be required to achieve BP (<140/90 mmHg, or <130/80 mmHg for patients with diabetes and chronic kidney disease);
- For patients whose BP is >20 mmHg above the SBP goal or 10 mmHg above the DBP goal, initiation of therapy using two agents, one of which usually will be a thiazide diuretic, should be considered;
- Regardless of therapy or care, hypertension will only be controlled if patients are motivated to stay on their treatment plan. Positive experiences, trust in the clinician, and empathy improve patient motivation and satisfaction. This report serves as a guide, and the committee continues to recognize that the responsible physician's judgement remains paramount.

In 2014, the **Joint National Committee (JNC 8)** released an updated set of recommendations on the prevention, detection, evaluation, and treatment of high blood pressure including the following recommendations:

- Recommendation 1: In the general population aged 60 years or older, initiate pharmacologic treatment to lower BP at systolic blood pressure of 150 mm Hg or higher or diastolic blood pressure (DBP) of 90 mm Hg or higher and treat to a goal lower than 150 mm Hg and goal DBP lower than 90 mm Hg.
  Strong Recommendation – Grade A
- Recommendation 2: In the general population younger than 60 years, initiate pharmacologic treatment to lower BP at DBP of 90 mm Hg or higher and treat to a goal DBP of lower than 90 mm Hg.
  Strong Recommendation – Grade E
- Recommendation 3: In the general population younger than 60 years, initiate pharmacologic treatment to lower BP at SBP of 140 mm Hg or higher and treat to a goal SBP of lower than 140 mm Hg.
  Expert Opinion – Grade E
- Recommendation 4: In the population aged 18 years or older with chronic kidney disease (CKD), initiate pharmacologic treatment to lower BP at SBP of 140 mm Hg or higher or DBP of 90 mm Hg or higher and treat to goal SBP of lower than 140 mm Hg and goal DBP lower than 90 mm Hg.
  Expert Opinion – Grade E
- Recommendation 5: In the population aged 18 years with diabetes, initiate pharmacologic treatment to lower BP at SBP of 140 mm Hg or higher or DBP of 90 mm Hg or higher and treat to a goal SBP of lower than 140 mm Hg and goal DBP lower than 90 mm Hg.

Expert Opinion – Grade E

- Recommendation 6: In the general nonblack population, including those with diabetes, initial antihypertensive treatment should include a thiazide-type diuretic, calcium channel blocker (CCB), angiotensin-converting enzyme inhibitor (ACEI), or angiotensin receptor blocker (ARB).
  Moderate Recommendation – Grade B
- Recommendation 7: In the general black population, including those with diabetes, initial antihypertensive treatment should include a thiazide-type diuretic or CCB.
  For general black population: Moderate Recommendation – Grade B
  For black patients with diabetes: Weak Recommendation – Grade C
- Recommendation 8: In the population aged 18 years or older with CKD and hypertension, initial (or add-on) antihypertensive treatment should include an ACEI or ARB to improve kidney outcomes. This applies to all CKD patients with hypertension regardless of race or diabetes status.
  Moderate Recommendation – Grade B
- Recommendation 9: The main objective of hypertension treatment is to attain and maintain goal BP. If goal BP is not reached within a month of treatment, increase the dose of the initial drug or add a second drug from one of the classes in recommendation 6 (thiazide-type diuretic, CCB, ACEI, or ARB). The clinician should continue to assess BP and adjust the treatment regimen until goal BP is reached. If goal BP cannot be reached with 2 drugs, add and titrate a third drug from the list provided. Do not use an ACEI and an ARB together in the same patient. If goal BP cannot be reached using the drugs in recommendation 6 because of contraindication or the need to use more than 3 drugs to reach goal BP, antihypertensive drugs from other classes can be used. Referral to a hypertension specialist may be indicated for patients in whom goal BP cannot be attained using the above strategy or for the management of complicated patients for whom additional clinical consultation is needed.
  Expert Opinion – Grade E

Comparison of Current Recommendations with JNC 7 Guidelines

Differences between JNC7 and JNC 8 are outlined below. It is important to note that the Physician Quality Reporting System (PQRS) cites JNC 7 and has not been updated to reflect JNC 8 recommendations to date.

Topic	**JNC 7**	**JNC 8**
Methodology	• Nonsystematic literature review by expert committee including a range of study designs • Recommendations based on consensus	• Critical questions and review criteria defined by expert panel with input from methodology team. • Initial systematic review by methodologists restricted to RCT evidence.

		• Subsequent review of RCT evidence and recommendations by the panel according to a standardized protocol.
Definitions	• Defined hypertension and prehypertension	• Definitions of hypertension and prehypertension not addressed, but thresholds for pharmacologic treatment were defined.
Treatment Goals	• Separate treatment goals defined for “uncomplicated” hypertension and for subsets with various comorbid conditions (diabetes and CKD)	• Similar treatment goals defined for all hypertensive populations except when evidence review supports different goals for a particular subpopulation.
Lifestyle Recommendations	• Recommended lifestyle modifications based on literature review and expert opinion	• Lifestyle modifications recommended by endorsing the evidence-based Recommendations of the Lifestyle Work Group.
Drug Therapy	• Recommended 5 classes to be considered as initial therapy but recommended thiazide-type diuretics as initial therapy for most patients without compelling indication for another class. • Specified particular antihypertensive mediation classes for patients with compelling indications, ie, diabetes, CKD, heart failure, myocardial infarction, stroke, and high CVD risk. • Included a comprehensive table of oral antihypertensive drugs including names and usual dose ranges.	• Recommended selection among 4 specific medication classes (ACEI or ARB, CCB or diuretics) and doses based on RCT evidence. • Recommended specific medication classes based on evidence review for racial, CKD, and diabetic subgroups. • Panel created a table of drugs and doses used in the outcomes trials.
Scope of Topics	• Addressed multiple issues (blood pressure measurement methods, patient evaluation components, secondary hypertension, adherence to regimens, resistant hypertension, and hypertension in special	• Evidence review of RCTs addressed a limited number of questions, those judged by the panel to be of highest priority.

	populations) based on literature review and expert opinion.	
Review process prior to publication	• Reviewed by the National High Blood Pressure Education Program-Coordinating Committee, a coalition of 39 major professional, public, and voluntary organizations and 7 federal agencies	• Reviewed by experts including those affiliated with professional and public organizations and federal agencies; no official sponsorship by any organization should be inferred.

Abbreviations: ACEI, Angiotensin-converting enzyme inhibitor; ARB, angiotensin receptor blocker; CCB, calcium channel blocker; CKD, chronic kidney disease; CVD, cardiovascular disease; JNC, Joint National Committee; RCT, randomized controlled trial

The **U.S. Preventive Services Task Force (USPSTF)** recommends screening for high blood pressure in adults aged 18 years or older. The USPSTF recommends obtaining measurements outside of the clinical setting for diagnostic confirmation before starting treatment.

Guideline Ratings

Guideline Issuer and Date	JNC 7	JNC 8	USPSTF
1. Transparency	B	A	A
2. Conflict of interest	A	A	A
3. Development group	B	A	A
4. Systematic Review	B	A	A
5. Supporting evidence	B	A	A
6. Recommendations	B	A	A
7. External Review	A	A	A
8. Currency and updates	C	A	A

See appendix B for full description of the Trustworthy Guideline grading system.

References:

1. Appleton, S. L., et al. (2013). "Untreated hypertension: prevalence and patient factors and beliefs associated with under-treatment in a population sample." Journal of Human Hypertension **27**(7): 453-462.
2. Bardach, N. S., et al. (2013). "Effect of pay-for-performance incentives on quality of care in small practices with electronic health records: a randomized trial." JAMA **310**(10): 1051-1059.
3. Chobanian, A. V., et al. (2003). "The seventh report of the joint national committee on prevention, detection, evaluation, and treatment of high blood pressure: The jnc 7 report." JAMA **289**(19): 2560-2571.
4. Garrison, G. M. and S. Oberhelman (2013). "Screening For Hypertension Annually Compared With Current Practice." The Annals of Family Medicine **11**(2): 116-121.
5. James P.A., et al. (2014). "Evidence-Based Guideline for the Management of High Blood Pressure in Adults Report From the Panel Members Appointed to the Eighth Joint National Committee (JNC 8)." *JAMA.* 2014;311(5):507-520.
6. Luehr, D., et al. (2012). "Hypertension diagnosis and treatment." Blood Pressure **140**(90): 90.
7. Winter, K. H., et al. (2013). "Hypertension." Primary Care: Clinics in Office Practice **40**(1): 179-194.
8. U.S. Preventive Services Task Force. *Final Recommendation Statement: High Blood Pressure in Adults: Screening*. November 2016. https://www.uspreventiveservicestaskforce.org/Page/Document/RecommendationStatementFinal/high-blood-pressure-in-adults-screening

Appendix A. GRADE criteria for rating a body of evidence on an intervention

Developed by the GRADE Working Group

Grades and interpretations:

High: Further research is very unlikely to change our confidence in the estimate of effect. Moderate: Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate. Low: Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate. Very low: Any estimate of effect is very uncertain.

Type of evidence and starting level

Randomized trial–high Observational study–low Any other evidence–very low

Criteria for increasing or decreasing level

Reductions Study quality has serious (–1) or very serious (–2) problems Important inconsistency in evidence (–1) Directness is somewhat (–1) or seriously (–2) uncertain Sparse or imprecise data (–1) Reporting bias highly probable (–1) **Increases** Evidence of association† strong (+1) or very strong (+2) †Strong association defined as significant relative risk (factor of 2) based on consistent evidence from two or more studies with no plausible confounders Very strong association defined as significant relative risk (factor of 5) based on direct evidence with no threats to validity.

Appendix B. Trustworthy Guideline rating scale

The University of Pennsylvania's Center for Evidence-Based Practice Trustworthy Guideline rating scale is based on the Institute of Medicine's "Standards for Developing Trustworthy Clinical Practice Guidelines" (IOM), as well as a review of the AGREE Enterprise and Guidelines International Network domains.

The purpose of this scale is to focus on the weaknesses of a guideline that may reduce the trust a clinical user can have in the guideline, and distinguish weaknesses in documentation (e.g. guide-line does not have a documented updating process) from weaknesses in the guidance itself (e.g. recommendations are outdated). Current quality scales like AGREE emphasize documentation. They are important checklists for developers of new guidelines, but are less useful for grading existing guidelines. These scales also are harder for clinicians and other persons who are not methodology experts to apply, and their length discourages their use outside formal technology assessment reports. This new scale is brief, balanced, and easy and consistent to apply.

We do not attempt to convert the results of this assessment into a numeric score. Instead we present a table listing the guidelines and how they are rated on each standard. This facilitates qualitative understanding by the reader, who can see for what areas the guideline base as a whole is weak or strong as well as which guidelines are weaker or stronger.

1. Transparency

A	Guideline development methods are fully disclosed.
B	Guideline development methods are partially disclosed.
C	Guideline development methods are not disclosed.

The grader must refer to any cited methods supplements or other supporting material when evaluating the guideline. Methods should include:

Who wrote the initial draft
How the committee voted on or otherwise approved recommendations

Evidence review, external review and methods used for updating are not addressed in this standard.

2. Conflict of interest

A	Funding of the guideline project is disclosed, disclosures are made for each individual panelist, and financial or other conflicts do not apply to key authors of the guideline or to more than 1 in 10 panel members).
B	Guideline states that there were no conflicts (or fewer than 1 in 10 panel members), but does not disclose funding source.

C	Lead author, senior author, or guideline panel members (at least 1 in 10) have conflict of interest, or guideline project was funded by industry sponsor with no assurance of independence.
NR	Guideline does not report on potential conflict of interests.

For purposes of this checklist, conflicts of interest include employment by, consulting for, or holding stock in companies doing business in fields affected by the guideline, as well as related financial conflicts. This definition should not be considered exclusive. As much as anything, this is a surrogate marker for thorough reporting, since it may be assumed that guideline projects are funded by the sponsoring organization and many authors think it unnecessary to report a non-conflict.

3. Guideline development group

A	Guideline development group includes 1) methodological experts and clinicians and 2) representatives of multiple specialties.
B	Guideline development group includes one of the above, but not both.
C	Guideline developers all from one specialty or organization, and no methodologists.
NR	Affiliations of guideline developers not reported

The purpose of this standard is to ensure that supporters of competing procedures, or clinicians with no vested interest in utilization of one procedure or another, are involved in development of the guideline. Both AGREE II and IOM call for patient or public involvement: very few guideline panels have done so to date, so this is not necessary for guidelines to be rated A. Involvement of methodologists or HTA specialists in the systematic review is sufficient involvement in the guideline development group for our purposes. In the absence of any description of the guideline group, assume the named authors are the guideline group.

4. Systematic review

A	Guideline includes a systematic review of the evidence or links to a current review.
B	Guideline is based on a review which may or may not meet systematic review criteria.
C	Guideline is not based on a review of the evidence.

In order to qualify as a systematic review, the review must do all of the following:

Describe itself as systematic or report search strategies using multiple databases
Define the scope of the review (including key questions and the applicable population)
Either include quantitative or qualitative synthesis of the data or explain why it is not indicated

Note: this element does not address the quality of the systematic review: simply whether or not it exists. Concerns about quality or bias of the review will be discussed in text, where the analyst will explain whether the weaknesses of the review weaken the validity or reliability of the guideline.

Note: a guideline may be rated B on this domain even if the review on which it is based is not available to us. This potential weakness of the guideline should be discussed in text of the report.

5. Grading the supporting evidence

A	Specific supporting evidence (or lack thereof) for each recommendation is cited and graded
B	Specific supporting evidence (or lack thereof) for each recommendation is cited but the recommendation is not graded.
C	Recommendations are not supported by specific evidence.

To score a B on this domain there should be specific citations to evidence tables or individual references for each relevant recommendation in the guideline, or an indication that no evidence was available. Any standardized grading system is acceptable for purposes of this rating. If a guideline reports that there is no evidence available despite a thorough literature search, it may be scored B on this domain, or even A if evidence for other recommendations is cited and graded.

6. Recommendations

A	Considerations for each recommendation are documented (i.e. benefits and harms of a particular action, and/or strength of the evidence); and recommendations are presented in an actionable form.
B	Either one or the other of the above criteria is met.
C	Neither of the above criteria are met

In order to be actionable, the guideline should specify the specific population to which the guideline applies, the specific intervention in question, and the circumstances under which it should be carried out (or not carried out). The language used in the recommendations should also be consistent with the strength of the recommendation (e.g. directive and active language like “should” or “should not” for strong recommendations, and passive language like “consider” for weak recommendations). A figure or algorithm is considered actionable as long as it is complete enough to incorporate all the applicable patients and interventions. Please see the forthcoming NICE manual (24) for a good discussion of actionability in guidelines.

7. External review

A	Guideline was made available to external groups for review.

B	Guideline was reviewed by members of the sponsoring body only.
C	Guideline was not externally reviewed.
NR	No external review process is described.

8. Updating and currency of guideline

A	Guideline is current and an expiration date or update process is specified.
B	Guideline is current but no expiration date or update process is specified.
C	Guideline is outdated.

A guideline is considered current if it is within the developers' stated validity period, or if no period or expiration data is stated, the guideline was published in the past three years (NOTE: the specific period may be changed at the analyst's discretion, based on whether the technology is mature and whether there is a significant amount of recent evidence). A guideline must address new evidence when it is updated. A guideline which is simply re-endorsed by the panel without searching for new evidence must be considered outdated