NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

Developing NICE guideline recommendations: the manual

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9 Interpreting the evidence and writing the guideline

This chapter gives guidance on how the committee should interpret the evidence and decide what recommendations to make. It also gives some advice on how to word recommendations, although editors will help committees with this.

9.1 Interpreting the evidence to make recommendations

Assessment and interpretation of the evidence to inform guideline recommendations is at the heart of the work of the committee.

Recommendations are developed using a range of evidence from the literature searches and other evidence – such as real world data and expert testimony (see the appendix on call for evidence and expert witnesses), views of stakeholders, people using services and practitioners, health inequalities briefings (if available) and the committee's discussions and debate (see the chapter on decision-making committees).

The committee should use its judgement to decide what the evidence means in the context of the scope of the guideline or area(s) for update. The quality of the evidence will have been assessed for both internal and external validity (see the chapter on reviewing evidence), but also needs interpretation. If a conceptual framework or logic model is being used to develop the guidance, the committee should consider this when interpreting the evidence.

The committee should decide what action to recommend and keep in mind which sectors (including which practitioners or commissioners within those sectors) should

act on the recommendations. This will identify the impact of the recommendations on practice or services and the committee can decide whether to stipulate who the recommendation is aimed at.

The committee should discuss how they moved from the evidence to each recommendation, including the relative value placed on the agreed outcomes, the benefits and harms of any interventions, resource use, and the overall quality of the evidence, as well as other factors they took into consideration.

For each recommendation or group of recommendations, the committee should discuss and agree their rationale for making the recommendations and the likely impact of the recommendations on practice or services. They should also discuss how the recommendations address any equality issues or health inequalities identified during the guideline development process.

Quality of the evidence

Evidence review documents summarise the evidence obtained from the results of evidence searches. Depending on the topic and type of evidence, they may include GRADE tables, GRADE-CERQual tables or (if GRADE or GRADE-CERQual is not used) evidence statements.

The committee should ensure that the reviews are a fair summary of the evidence and should discuss any uncertainty in the review findings (including limitations of individual studies and inconsistency across studies).

For details see the chapter on reviewing evidence.

Trade-off between benefits and harms of an intervention

A key stage in moving from evidence to recommendations is weighing up the size and importance of the benefits and harms of an intervention, and the potential for unintended consequences. This may be done qualitatively or quantitatively.

The committee should discuss the extent to which the effects seen in the evidence are representative of what would happen in the real world.

The committee should also assess the extent to which the recommendations may impact on health inequalities. This needs to be made clear, regardless of whether the recommendation is aimed at the whole population, specific subgroups or a combination of both. If there is potential to increase health inequalities, the committee should consider whether they can do anything to prevent this from happening or reduce the impact.

Trade-off between economic considerations and resource use

The committee should discuss cost effectiveness at the same time as effectiveness when formulating recommendations. Interventions that are not considered cost effective should not usually be offered.

The evidence review document should explain how costs, resource use and economic considerations were taken into account in determining the cost effectiveness of an intervention. This may be informal, or may be more formal and include economic modelling (see the chapter on incorporating economic evaluation).

If several possible interventions are being considered, the committee should consider sequencing them in terms of their cost effectiveness.

Considerations about equity may also affect the decision whether to recommend the intervention (see the section on equity considerations in the chapter on incorporating economic evaluations).

Use of indirect evidence

Sometimes, when there is no evidence directly relevant to a specific population, indirect evidence from other populations may be considered. For example, evidence on treating absence seizures in children and young people was extrapolated to adults because the disease has a similar pathophysiology in all 3 populations.

This needs careful consideration by the committee, with discussion of the features of the condition or interventions that allow extrapolation to a different population.

This also applies when extrapolating findings from evidence in different care settings (for example, between primary and secondary care). The committee should consider

the similarities and differences in case mix, staffing, facilities and processes between the settings before extrapolating evidence in this way.

Consider the feasibility of putting recommendations into practice

The committee should judge to what extent it will be feasible to put the recommendations into practice.

The committee should consider the extent of change in practice that will be needed to implement a recommendation, staff training needs, policy levers and funding streams, and the possible need for carefully controlled implementation with, for example, training programmes. This should be documented in the guideline and in any resources to support implementation.

Wider basis for making recommendations

The committee should take into account a range of issues, including any ethical issues, equity considerations, health inequalities and national priorities for health and care, as well as equality legislation, to ensure that the guideline recommendations are ethical, practical and specific.

There are no hard-and-fast rules or mechanisms for doing this: the committee should make conscious and explicit use of its members' skills and expertise. All evidence needs interpretation: evidence alone cannot determine the content of a recommendation.

Developing evidence-based recommendations involves:

- using what is known (inductive reasoning) while accepting that there is uncertainty about what is likely to happen because of implementing a recommendation
- drawing on theory or methodological principles (deductive reasoning).

Alongside this manual, committees should use the NICE principles and the NICE charter to inform their decisions. The committee may also draw on the principles outlined in the report on ethical issues in public health by the Nuffield Council on Bioethics.

Conceptual framework or logic model

When the committee is developing its recommendations, it should consider any conceptual frameworks or logic models that have been used to inform the guideline because these may help to identify the broader context within which the recommendations are being developed.

Promoting equality and reducing health inequalities

The equality and health inequalities assessment (EHIA) form should document how the committee's responsibilities under equality legislation and NICE's equality scheme have been discharged in reaching the recommendations (see the section on key principles for developing guidelines in the introduction chapter), and how the recommendations address equality issues and health inequalities.

The committee needs to consider whether:

- the evidence review has found evidence to support recommendations to address any equality issues and health inequalities identified during guideline development (if not, consider other sources of information for example expert testimony or health inequality briefings, if available)
- criteria for access to an intervention might be discriminatory (for example, through membership of a particular group, or by using an assessment tool that might discriminate unlawfully)
- any groups of people might find it impossible or difficult to receive or access an intervention.

Ideally, recommendations should be formulated to promote equality and reduce health inequalities (for example, by making access more likely for certain groups, or by tailoring the intervention to specific groups). If this is not possible, the committee should consider whether it is appropriate to make a research recommendation (for further details see the section on formulating recommendations for research).

Strength of recommendations

The concept of the 'strength' of a recommendation (Guyatt et al. 2008) is key to translating evidence into recommendations. This takes into account the quality of the evidence but is conceptually different.

If the committee believes that the vast majority of practitioners or commissioners and people using services would, based on the evidence seen by the committee, choose a particular intervention, they should make a strong recommendation for the intervention. This is generally the case if the benefits clearly outweigh the harms for most people and the intervention is likely to be cost effective. If the opposite is true, they should make a strong recommendation against the intervention.

If the committee concludes, based on the evidence, that there is a closer balance between benefits and harms, and some people would not choose an intervention whereas others would, they should make a weak recommendation for the intervention. This may happen, for example, if some people are particularly likely to benefit and others are not, or people have different preferences and values. In these circumstances, the recommendation is generally weaker, although it may be possible to make stronger recommendations for specific groups of people.

The committee should be aware that NICE reflects the strength of the recommendation in the wording (see the section on wording the recommendations).

Insufficient evidence

If published evidence of efficacy or effectiveness for an intervention is lacking, too low quality, or too uncertain for firm conclusions to be reached, the committee may use its experience and knowledge to do 1 of the following:

- make a weak recommendation
- recommend that the intervention is used only in the context of research
- make a strong recommendation
- decide not to make a practice recommendation, and make a recommendation for research (see the section on formulating research recommendations)
- decide not to make a practice recommendation or a recommendation for research, including a rationale for this decision in the guideline.

The last option should be used sparingly on the basis that scoping will have shown that guidance was needed.

The principles in the section on wording the recommendations should be used.

Strong recommendations against an intervention

Reasons for the committee to make a strong recommendation against an intervention include:

- potential harms outweigh the potential benefits
- the intervention has no reasonable prospect of providing cost-effective benefits
- stopping the intervention is not likely to cause harm
- good-quality clinical evidence shows a lack of efficacy or effectiveness
- there is a lack of evidence of efficacy or effectiveness for an intervention, or the quality of the evidence is too low or too uncertain
- the intervention has a safety issue or warning from the Medicines and Healthcare products Regulatory Agency (MHRA).

If most people are likely to experience no benefit or to experience harm but there may be a benefit for some, the committee can make a strong recommendation against the intervention but with a caveat. In this case, they should be as specific as possible about the circumstances under which, or population for whom, the intervention is appropriate.

'Only in research' recommendations

The committee can make an ‘only in research’ recommendation if the necessary research can realistically be set up or is already planned, or people using services are already being recruited for a study. The following criteria may also apply:

- the intervention has a reasonable prospect of providing cost-effective benefits
- there is a real prospect that the research will inform future NICE guidelines.

Little evidence of difference between interventions

There might be little evidence of differences in effectiveness or cost effectiveness between interventions. In this case, all effective or cost-effective interventions may be recommended.

Recording the committee's discussion and rationale for the recommendations

The committee's justifications for making the recommendation, and its strength, should be summarised in the rationale for the recommendation and fully explained in the committee discussion section of the relevant evidence review document.

The committee discussion follows a structured format, to ensure transparency about the issues considered. In most cases the committee reaches decisions through a process of informal consensus. If formal voting procedures are used, this is also recorded.

Principles of person-centred care

All NICE guidelines advocate the principles of person-centred care: people using services and the wider public should be informed of their options and be involved in decisions about their care, as described in NICE's webpage on making decisions about your care.

There are 5 guidelines specifically on the experience of people using services:

- patient experience in adult NHS services
- service user experience in adult mental health
- people's experience in adult social care services
- shared decision making
- babies, children and young people's experience of healthcare.

These include general recommendations on the principles of person-centred care, such as communication and providing information, which should not be restated in topic-specific guidelines. Recommendations from these guidelines can be cross-referred to when needed.

Recommendations on person-centred care can be included in topic-specific guidelines if there is evidence of specific need for the topic.

Topic areas we do not usually make recommendations on

Table 1: Topic areas we do not usually make recommendations on

Topic area	What to do instead	Exceptions
General principles of care covered in foundational guidelines	Link to the relevant foundational guideline: patient experience in adult NHS services service user experience in adult mental health people's experience in adult social care services shared decision making babies, children and young people's experience of healthcare	If there is evidence of issues specific to the topic of the guideline recommendations
Repeating recommendations from another NICE guideline	Link to the other guideline (see the chapter on linking to other guidance)	If linking between specific recommendations would be cumbersome for users
Recommendations on general lifestyle advice	Link to relevant public health guidelines	If there is evidence and a strong rationale to include a recommendation specific to the topic of the guideline recommendations
Recommendations on good practice or general principles of care that are not linked to review questions or evidence	Do not include	If there is evidence and a strong rationale to include a recommendation specific to the topic of the guideline recommendations
Prescribing information covered by the BNF (for example, dosing, monitoring, adverse effects, contraindications)	Nothing – this is covered by the BNF	If there is evidence that a particular medicine is often prescribed inappropriately, or the prescribing information is fundamental to understanding the recommendation
Prescribing information if it is not in the BNF or there's evidence it needs updating	The NICE medicines adviser will work with the BNF to update content in line with evidence if needed	Content not covered by the BNF (for example, a specialist topic)
National patient safety advice on medicines and devices	The NICE medicines adviser will work with the MHRA if needed	If there is a significant safety risk and clear evidence that safety advice is not routinely implemented in practice, if the recommendation will not make sense without the information
Training or competency in areas that are the responsibility of professional bodies	The implementation team can work with professional bodies to identify training needs	Training or competency in areas that are not the responsibility of professional bodies, and are identified as being important to cover in guideline recommendations

Topic area	What to do instead	Exceptions
Service configuration or service delivery	Do not include	Recommendations on service delivery or service configuration that are evidence based or address system priorities
Following laws or statutory guidance	Do not include	If there is evidence that guidance is needed on how to follow the law or statutory guidance

9.2 Recommendations on medicines

When making decisions about treatment options, users of our guidelines are expected to take note of prescribing information, such as contraindications, warnings, safety advice and any monitoring requirements for a medicine. This is available in the British National Formulary (BNF) or BNF for Children (BNFC), as well as the medicine's summary of product characteristics (available on the electronic medicines compendium). For more information on prescribing, see NICE's webpage on making decisions using NICE guidelines.

Prescribing information

Prescribing information includes dosage, duration of treatment, monitoring requirements, contraindications, cautions and adverse effects. We do not usually include prescribing information in its recommendations though there are some exceptions to this. See table 1 for details.

Overprescribing

Overprescribing is when people are given medicines they do not need or want, or where the harm outweighs the benefits. In line with the Department of Health and Social Care's national overprescribing review, we should include recommendations for reviewing and stopping medicines if overprescribing is a concern. Also see NICE's guidelines on medicines optimisation and medicines associated with dependence or withdrawal symptoms.

National medicines safety advice

National medicines safety advice includes national patient safety alerts and the MHRA's drug safety updates. We do not usually include patient safety information in

its recommendations though there are some exceptions to this. See table 1 for details.

Antimicrobials and antimicrobial stewardship

Recommendations on antimicrobials should:

- take account of antimicrobial resistance and the principles of good antimicrobial stewardship
- name the specific antibiotic or class of antibiotics being recommended
- include information on reviewing and stepping down treatment when recommending intravenous or prophylactic antibiotics.

Guidelines that cover antimicrobial prescribing may include prescribing tables that detail choice of antimicrobials, dosages, duration of treatment and routes of administration (for an example of an antimicrobial prescribing table, see the section on choice of antibiotic in NICE's guideline on Clostridioides difficile infection).

Off-label use of licensed medicines

Recommendations are usually about using medicines within their licensed indications. However, there are clinical situations in which recommending an off-label use of a licensed medicine may be in the best clinical interests of the person, in line with the MHRA guidance (see appendix 2 of the MHRA guidance on the supply of unlicensed medicinal products). For example, this may happen if the clinical need cannot be met by a licensed product and there is enough evidence or experience of using the medicine to support its safety and efficacy.

Dosage information for off-label use of a licensed medicine is not usually included in the summary of product characteristics (SPC). If off-label use is being recommended, NICE should check whether there is any relevant dosage information in the BNF or BNF for Children. If there is none, NICE will work with the BNF to add the necessary information if needed.

Unlicensed medicines

The MHRA states that: If a UK licensed medicine can meet the person's clinical need (even if it is used off-label), it should be recommended instead of an unlicensed

product. An unlicensed medicine should not be recommended if a product available and licensed within the UK could be used to meet the person's clinical need.

Committees should take account of the MHRA guidance (see appendix 2 of the MHRA guidance on the supply of unlicensed medicinal products) when making recommendations but consider each situation on its own merit.

Medical devices, including off-label use

Recommendations are usually about using devices within the terms of the instructions for their use. However, there are clinical situations in which the off-label use of a device may be in the best interests of the person. For example, when using a device outside the time period specified in the instructions for use.

Committees should take account of the MHRA guidance on the off-label use of medical devices.

9.3 Wording the recommendations

This section gives the key principles of writing recommendations. Following these principles helps ensure that recommendations meet user needs. The content editor works with the rest of the development team and committee throughout guideline development to ensure that recommendation wording reflects the committee's intent and is clear and easy to follow.

The recommendations should be in line with NICE's style and principles, and accessibility regulations.

For information on NICE style, and using clear English and person-centred language, see NICE's style guide and guide on writing for NICE.

For information on accessibility, see NICE's webpage on accessibility and accessibility changes: notes for developers.

Focus on the action and what readers need to know

Recommendations should be clear about what needs to be done, without the reader having to read the rationale or committee's discussion in the evidence review document. When writing recommendations, keep in mind the following:

- a reader asking, ‘What does this mean for me?’
- how a health and care professional will be able to implement them with an individual person, in a way that supports shared decision making.

Include only 1 action per recommendation or bullet point unless it is clearer to include a closely linked action in the same recommendation.

Be specific about actions and use direct instructions in recommendations wherever possible because these are easier to follow. Recommendations should start with a verb such as ‘offer’ (or ‘do not’), ‘consider’, ‘measure’, ‘advise’, ‘discuss’, ‘ask about’.

Exceptions to this principle include:

- Recommendations that specify who should take action, or cover service organisation. For example: A multidisciplinary team should provide care.
- Recommendations that use ‘must’ or ‘must not’ (because of a legal duty or serious consequences of not following the recommendation).

Think carefully about how much detail to include. Recommendations should be clear and concise. Including a lot of detail can reduce the impact and make them harder to understand.

Reflect the strength of the recommendation

In ‘strong’ recommendations for actions that should (or should not) be offered, use directive language such as ‘offer’ (or ‘do not offer’), ‘advise’, or ‘ask about’. In keeping with the principles of shared decision making, people may choose whether or not to accept what they are offered or advised.

If there is a closer balance between benefits and harms (activities or interventions that could be used), use ‘consider’ to reflect that the recommendation is ‘weak’.

Use ‘person-centred’, precise, concise, clear English

Key principles include using language that is person-centred, using clear and consistent wording, and using bullet lists and tables if they make recommendations easier to follow.

Language that is person-centred acknowledges the experience of people who are directly affected by the recommendations (and family members, carers or advocates), and their role in decision making. For more information see the section on talking about people in the NICE style guide.

9.4 Supporting shared decision making

Identify preference-sensitive decision points

Guidelines should be written to support shared decision making between people and their health or social care practitioners (see the recommendations on supporting people to make decisions about their care in NICE's guidelines on shared decision making, patient experience in adult NHS services, service user experience in adult mental health, people's experience in adult social care services, multimorbidity and babies, children and young people's experience of healthcare).

The committee should identify recommendations where someone's values and preferences are likely to be particularly important in their decision about the best course of action for them.

These 'highly preference-sensitive decision points' occur when the committee recommends 2 or more options that deliver similar outcomes but have different types of harms and benefits or different practicalities (such as a choice between medicine and surgery, or differing burden of treatment) that people may value differently.

Alternatively, a highly preference-sensitive decision point may occur if the choice between 1 or more investigation, treatment or care options and 'doing nothing new or different' is finely balanced.

These decision points may be identified as early as the guideline scoping stage, or when the committee reviews the evidence.

Summarise information to support decisions

When a highly preference-sensitive decision point is identified, create a summary of the evidence to make it easy for professionals and practitioners to discuss the options with the person.

Base the summary on the evidence review documents underpinning the recommendations, and explain the benefits, risks, alternative options, and what might happen if the person decides not to have the intervention. The BRAN format is an example of how to do this:

- **benefits** of each recommended option
- **risks** and consequences of each option (including adverse effects and consequences of treatment such as the need for regular monitoring with warfarin, or implications for driving with insulin treatment)
- **alternatives** to the main option(s)
- option of doing **nothing** new or different – what might happen it I decide against the option(s) and remain on my current treatment (if any).

NICE medicines advisers can help guideline development teams with questions such as how to apply BRAN to a particular decision point, and how much information to include on adverse effects of treatments.

Occasionally, we will develop an additional decision aid (see the chapter on support for putting the guideline recommendations into practice and the NICE decision aid process guide).

9.5 Formulating recommendations for research

The committee is likely to identify areas for which there are uncertainties or for which robust evidence is lacking.

The committee can select up to 10 key recommendations for research that are likely to inform future decision-making (based on a systematic assessment of gaps in the current evidence).

They can also make other recommendations for research. These will be listed in the guideline after the key recommendations for research but will be of lower priority.

The committee should justify and document why they have made a recommendation for research when there was uncertainty or a lack of evidence.

For further information see the NICE research recommendations process and methods guide.

9.6 References and further reading

Alonso-Coello P, Oxman AD, Moberg J et al. for the GRADE working group (2016) GRADE Evidence to Decision (EtD) frameworks: a systematic and transparent approach to making well informed healthcare choices. 2: Clinical practice guidelines. BMJ 353: i2089

Claxton K, Sculpher MJ (2006) Using value of information analysis to prioritise health research: some lessons from recent UK experience. Pharmacoeconomics 24: 1055–68

Glasziou P, Del Mar C, Salisbury J (2003) Evidence-based medicine workbook. London: British Medical Journal Books

Guyatt GH, Oxman AD, Vist GE et al. for the GRADE working group (2008) GRADE: an emerging consensus on rating quality of evidence and strength of recommendations. BMJ 336: 924 (see also the GRADE website)

Joint Royal College of Paediatrics and Child Health/Neonatal and Paediatric Pharmacists Group Standing Committee on Medicines (2013) The use of unlicensed medicines or licensed medicines for unlicensed applications in paediatric practice

Kelly MP, Moore TA (2012) The judgement process in evidence-based medicine and health technology assessment. Social Theory and Health 10:1–19

Michie S, Johnston M (2004) Changing clinical behaviour by making guidelines specific. British Medical Journal 328: 343–5

Nuffield Council on Bioethics (2007) Public health: ethical issues. London: Nuffield Council on Bioethics

Sackett DL, Straus SE, Richardson WS (2000) Evidence-based medicine: how to practice and teach EBM. Edinburgh: Churchill Livingstone

Schünemann HJ, Mustafa R, Brozek J et al. for the GRADE working group (2016) GRADE Guidelines: 16. GRADE evidence to decision frameworks for tests in clinical practice and public health. Journal of Clinical Epidemiology 76: 89–98

Scottish Intercollegiate Guidelines Network (2019) SIGN 50. A guideline developer's handbook, revised edition. Edinburgh: Scottish Intercollegiate Guidelines Network

Tannahill A (2008) Beyond evidence – to ethics: a decision making framework for health promotion, public health and health improvement. Health Promotion International 23: 380–90

Weightman A, Ellis S, Cullum A et al. (2005) Grading evidence and recommendations for public health interventions: developing and piloting a framework. London: Health Development Agency