NICE guidance on health technologies and the role of editors

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Abstract

The National Institute for Health and Care Excellence (NICE) is the independent organisation in England responsible for developing national guidance, standards, and information on providing high-quality health and social care, and preventing and treating ill health. Editing plays a major role in this process, by helping to ensure that published guidance from NICE lacks mistakes, omissions, and ambiguities and that it is easy to understand for both healthcare professionals and the public.

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The National Institute for Health and Care Excellence (NICE) is the independent organisation in England responsible for developing national guidance, standards, and information on providing high-quality health and social care, and preventing and treating ill health.[1] NICE produces evidence-based guidance and advice for health, public health, and social care practitioners; develops quality standards and performance metrics for people providing and commissioning health, public health, and social care services; and provides a range of information services for commissioners, practitioners, and managers across the spectrum of health and social care.[2]

NICE is internationally recognised for the way in which it develops its guidance recommendations, which are developed by independent and unbiased advisory committees using a rigorous process centred on using the best available evidence and including the views of experts, patients, carers, and industry.

NICE and economic evaluation

The technical ability of the National Health Service (NHS) in England to provide care far exceeds its ability to afford all of this care. This means choice cannot be avoided and that decisions on what the NHS provides have to be made. One of NICE's roles is to provide guidance to the NHS on the clinical and cost effectiveness of selected new and established health technologies, as formally requested by the Department of Health.

Health technologies referred to NICE include medicinal products, medical devices, diagnostic techniques, surgical procedures, therapeutic technologies other than medicinal products, systems of care, and screening tools. NICE's Centre for Health Technology Evaluation (CHTE) develops the guidance on these health technologies. Its technology appraisals programme carries out many of the evaluations, but many technologies are considered by other programmes within NICE:

- *Technology appraisals*[3] assess the clinical and cost effectiveness of health technologies, such as new pharmaceutical and biopharmaceutical products, as well as some procedures, devices, and diagnostic agents. The NHS in England and Wales has a legal obligation to put technology appraisal recommendations into practice,[2] usually within 3 months of guidance publication.[4]
- *Diagnostics technologies guidance*[5] evaluates diagnostic technologies that have the potential to improve health outcomes but the introduction of which is likely to be associated with an overall increase in cost to the NHS. The diagnostic assessment programme concentrates on pathological tests, imaging, endoscopy, and physiological measurement. Diagnostic technologies may be used for various purposes, including diagnosis, clinical monitoring, screening, treatment triage, assessing stages of disease progression, and risk stratification.
- *Medical technologies guidance*[6] assesses technologies that may offer similar health outcomes

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at less cost or improved health outcomes at the same cost as current NHS practice. Products that might be included are medical devices that deliver treatment (such as those implanted during surgical procedures), technologies that give greater independence to patients, and diagnostic devices or tests used to detect or monitor medical conditions.

- *Interventional procedures guidance*[7] assesses the safety and efficacy of (mainly) new procedures that are used for diagnosis or treatments that involve incision, puncture, entry into a body cavity, or the use of ionising, electromagnetic, or acoustic energy. It does not consider the cost effectiveness of these procedures.

The rapid increase in healthcare expenditure has led to a more serious consideration of value for money by general practitioners prescribing drugs and referring patients; hospital doctors deciding whether, how, and when to investigate and treat; hospital managers on the basis of meeting a budget or a target; and policy makers and commissioners of care. This need to provide value for money also affects patients and their care because it can influence what treatments are available. Accordingly, guidance from the CHTE includes economic evaluation, which has been defined as '…the comparative analysis of alternative courses of action in terms of both their costs and consequences.'[8] Technology appraisals and diagnostics guidance include cost-effectiveness analysis, in which effectiveness is usually measured in quality-adjusted life years with standardised instruments such as EQ-5D, and cost is usually measured in expenditures by the NHS and social services. NICE often also uses economic models to model costs and cost effectiveness, and carry out sensitivity analyses. A simpler form of economic modelling is also included in the medical technologies assessments. Cost-consequence modelling is used instead of cost-effectiveness modelling because this guidance is only concerned with whether a greater benefit can be attained for the same or lower cost or if the same benefit can be attained at a lower cost.

NICE guidance contains the recommendations made by a committee and sets out the evidence and views considered by the committee. In general, it starts with the recommendations and then has sections describing the technologies and what they are used for, a summary of the clinical and cost-effectiveness evidence, and an outline of the committee's discussion and interpretation of the evidence that underpins the recommendations.

The role of editors in economic evaluation and NICE guidance

Editing plays a major part in helping to make sure no mistakes, omissions, or ambiguities occur in published NICE guidance. Editors at NICE also ensure that guidance documents are clear and easy to understand for the people who use them even though they often contain complex and technical information. To this end, all NICE guidance is written according to its principles of effective writing, such as:

- Writing in plain English
- Avoiding repetition
- Varying sentence length but keeping sentences as short as possible
- Avoiding jargon
- Using short rather than long words
- Not using two words when one will do
- Avoiding nominalisations (turning verbs into nouns, for example 'for treating' rather than 'for the treatment of').

There is an editorial subteam responsible for editing all NICE guidance developed by the CHTE on the use of new and existing medical technologies. The team includes five senior medical editors (hereafter, referred to as 'editors'), each of whom 'leads' the editing of appraisals from one of the technology appraisal's committees and one other programme (i.e. diagnostics, medical technologies, or interventional procedures).

Each of the editors in the CHTE editing team receives basic training in health economics to ensure that they are familiar with the terminology and they understand the fundamentals of how economic evaluations are carried out. This helps them make sure that jargon is avoided and that complex economic information is clearly explained. It also helps the editors communicate with their colleagues in the CHTE.

The editors in the CHTE editing team work in collaboration with technical analysts and other colleagues in the CHTE. The analysts draft the guidance documents, and the editors take editorial responsibility for the published documents, including the consultation and final guidance documents, for their committee and their programme. To help in this process, the editors usually attend the committee meetings as observers.

The editors edit and proofread guidance documents and, for certain programmes, carry out a fact check using supporting documents such as the manufacturer's submission and the independent technology assessment. In addition to copyediting

for sense, clarity, consistency, accuracy, grammar, and house style, the editors also check that the recommendations are clear and unambiguous, reflect the scope of the guidance, and are supported by the evidence and the committee's considerations section (see Text Box 1 for more about writing NICE recommendations). They may make suggestions about the wording of specific recommendations to improve their clarity, and may raise wider issues relating to the recommendations. The editors also check for consistency with other NICE guidance and guidelines, and they verify that any changes in later drafts are carried through to all relevant sections of the document. An important editorial check is that accepted terminology is used for groups protected under equalities legislation. The editors are also responsible for preparing the final guidance for upload onto the NICE website in digital format, and for checking it once it is up on the live site.

Text Box 1: Writing NICE recommendations

The style of recommendations and the standard forms of wording used are different for different NICE guidance programmes, but the general principles of effective writing used are the same:

- For every recommendation, make sure it is clear what the patient group or target population is and exactly what the professionals need to do.
- Start with the action if possible and include only one action per recommendation or bullet point.
- Be specific. For example, if other treatments should be tried first, state how many and for how long.
- Use 'and' and 'or' in lists of criteria to make it clear whether all or only some of the recommendations have to be met.
- Alternatively, add a phrase such as 'if all of the following criteria are met' to the introduction (useful if the list of criteria is long, or certain criteria have to be met).
- Leave out background information and commentary.
- Make every word count and make the recommendation a direct instruction if possible, particularly if the recommendation is aimed directly at healthcare professionals.

The editors are in charge of all editorial processes associated with the guidance documents (e.g. developing and maintaining editing notes and check lists) and ensure that these processes are embedded into guidance production as part of the quality control, and they work collaboratively to develop templates for the documents. Editors often juggle several guidance documents at different stages of the editorial process and are required to work to very tight deadlines.

Other editorial responsibilities

NICE has an obligation to ensure that its guidance is clear and accessible to the people who use NHS services. To this end, NICE produces a 'lay translation' of each piece of clinical guidance and quality standard that it publishes – referred to as 'information for the public' or 'IFP'. It is the editors' job to write and edit this information. For technology appraisals, for example, these leaflets include information about what NICE has said about the technology, who can have the technology, and why NICE has made the recommendations it has. The leaflets also include a brief explanation of how the technology works and an explanation of the condition it is used to treat. Finally, the leaflets explain what the recommendations mean for patients, and list up to five organisations that can provide more information and support for people with the condition and their carers.

Editors in the CHTE editing team are also responsible for working on NICE Pathways, an interactive web-based tool that offers an easy-to-use, intuitive way of accessing a range of information from NICE about health, public health, and social care. Nice Pathways provides up-to-date NICE guidance, quality standards, and related information. The editors amend the pathways to include technology appraisals, interventional procedures, medical technologies, and diagnostics guidance.

NICE editors are also responsible for editing patient access schemes, which are special ways in which manufacturers and sponsors can submit proposals to the Department of Health for innovative pricing agreements that are designed to improve cost effectiveness and to facilitate patient access to specific drugs or other technologies. They also edit advice and tools to support the local implementation of NICE guidance, such as costing tools or statements, and audit support tools. All NICE programmes must have one or more published guides to their process and methods, all of which are also edited by members of the CHTE editing team.

To help everyone at NICE write more effectively, the senior medical editors run 'Writing for NICE' workshops, 'Word at NICE' workshops, and other editing and writing courses as needed, and they all help to maintain the NICE style guide. They are also involved, along with their CHTE colleagues,

in induction training for new members of the appraisals teams.

A personal view of working as an editor at NICE

I have found working for NICE as a senior medical editor to be really fulfilling, with lots of variation and challenges. It allows me to use my experience as a medical editor and writer, as well as my medical knowledge as a pharmacist. For me, the independence, rigour, and high quality of the work at NICE, coupled with its international reputation, were important factors in why I wanted to work for the organisation. It feels good to know that what I do at NICE is part of something that makes a meaningful difference to people.

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Author information

Helen Barnett is a Senior Medical Editor at NICE. She has been a medical editor and writer for about 30 years and has produced a variety of materials for a range of audiences (from experts to patients). She is also a registered pharmacist and has worked as a prescribing advisor in the NHS.