Guidelines

LEADING ARTICLE

Getting guidelines to work in practice

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Creating good guidelines

clinical guideline is a set of instructions that are relevant at the bedside, and assist in decision making. These are not to be confused with protocols that simply state mandatory policies. Usually such protocols are not in a format suitable to assist clinical decision making in acute situations. Evidence-based guidelines are produced by national committees, colleges or expert bodies. These often take the format of a discussion document; they present the rationale behind a recommendation and often include a summary of the available evidence base. They are useful for background reading and in guideline preparation, but not for quick reference at the point of care. The National Institute for Health and Clinical Excellence (NICE) produces lengthy assessments and summaries that run to several pages. Again, these are helpful in guideline preparation but are far too cumbersome for bedside reference. Position statements are produced by the Royal Colleges, and are useful where they make clear recommendations, but often the clinician is given a choice of two or more options. This is appropriate in terms of framing research questions and defining an acceptable range of practice, but does not lead to standardisation of practice in a department.

The primary role of a clinical guideline is to improve patient care. Therefore, the ideal measure of a good guideline is improvement in clinical outcome. Organising a study to demonstrate such benefit even for one guideline is likely to prove challenging as a large randomised controlled study would be required, and in many instances this may not be practically possible to organise or fund. Consequently, the value of a guideline may be have to be assessed in other ways. This has been done in general practice in The Netherlands,¹ where it was concluded that a good guideline is one that is used in practice, has evidence-based recommendations, has precise definitions of recommended practice and has been tested among the target group for feasibility and acceptance. Even if guidelines score well on the above assessment, it is not self-evident that outcomes will be improved. By what mechanism might a good guideline improve clinical outcome?

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Firstly, a good guideline must embody the latest evidence-based practice. In other words, it is a means of getting research into practice. Secondly, a good guideline will encourage consistent practice. This benefits patient care, by ensuring that all the members of the team become skilled or experienced in applying the recommended practices. It also provides an excellent basis for moving forward, because consistent practice is amenable to audit or critique, leading to a cycle of continuous improvement. Thirdly, good guidelines will reduce all types of medical errors.² These include procedural errors when the correct procedures are followed but incorrectly executed; communication errors when information is missing, wrong or misinterpreted; proficiency errors when the clinician lacks knowledge or skill; and decision errors when a decision is made that unnecessarily increases risk. Clearly, some of these errors might be exacerbated by poor-quality guidelines, hence the need for a strong method and editorial process as described below.

GUIDELINE DEVELOPMENT

Producing clinical guidelines requires time, enthusiasm and resources.3 Where individual departments have developed guidelines, they often have idiosyncrasies, inconsistent format, lack of evidence base and failure to implement regular review. Even in small departments, it is often difficult to achieve consensus, leading to a range of treatment options. This is confusing for a clinician attempting to use the guidelines at the bedside, especially when the clinician is inexperienced. For these reasons, it is rare to find guidelines covering a range of common paediatric or neonatal conditions in use across organisation boundaries. Although the resources of a larger grouping for the production of guidelines are greater, it becomes even more difficult to agree on best practice, with each individual department clinging to their own experience and opinions.

Therefore, an approach different from that of simply bringing together clinicians

from different departments and trying to achieve a consensus is required. It has been suggested that a guideline development group will benefit from the following range of skills and experience⁴:

- literature searching and retrieval
- epidemiology
- biostatistics
- health services research
- clinical experts
- group process experts
- writing and editing.

One of the barriers to creating good guidelines and keeping them up to date is the time required for quality and repeated literature review. Therefore, a research or clinical effectiveness librarian is a key member of the group. The clinician writing the guideline is responsible for framing practical clinical questions, essential to the guideline topic-for example, "What is the evidence that steroids improve outcome if given before antibiotics in meningitis?" A skilled dedicated clinical effectiveness librarian, who is trained in evidence-based methods of appraising literature, will find more relevant literature than a clinician and will provide an unbiased appraisal of the result.5 This literature review and summary is gathered together to provide a pack of supporting information for the guidelines: it is not published as part of the guideline so as to keep the guideline brief and easy to follow. Where there is no evidence, then best practice must be determined by published recommendations or consensus. It should be clear in the supporting information that such recommendations are not evidence based. In practice, this embodies much of paediatric bedside practice.

Often, users of guidelines will wish to comment on the guideline in draft form. This is helpful, provided it is accepted that consensus is impossible to achieve and that the author of the guideline is free to accept or reject suggestions from colleagues. A strong editorial process is a key component to the development of quality guidelines. Where there are different authors of separate guidelines in a set, they should be given a standard style to follow, so that each guideline is of a uniform presentation. The editorial approach aims for conciseness, eliminating any information not of practical value, removing ambiguities and using bulleted, active tense, terse statements, with bold typeface to alert or warn. Such simplicity of style is known to assist implementation. Editors from other disciplines are often best placed to pick up points of ambiguity or where there is a chance of misinterpretation.

Clinical behaviour is more likely to change if guidelines are precise and simple.6 Words such as "should" or "may" are avoided; instead, verbs are used in the imperative with positive guidance. Long paragraphs are replaced by lists where possible. Colloquial English is changed to words that will be readily understood by people whose first language is not English. Instructions that could be interpreted in different ways are avoided-for example, "give slowly" is changed to "give over 5 minutes". Important details are included in full and eponymous terms defined. Unnecessary detail that may be of interest but is not required for decision making is omitted-for example, the incidence of different conditions. Emphasis is used sparingly with boxed comments. All abbreviations adopt a standard formatfor example, "hr" for hour. Commonly used terms are standardised to give consistency across different guidelines, and there is cross referencing to other guidelines.

The editorial committee needs to meet to discuss any areas proving particularly difficult with differences of opinion. However, these instances are rare, and differences can usually be easily resolved between an author and single editor. As the lead editor must make the final decision, it is better to acknowledge all contributors at the beginning of a guideline book, rather than against each guideline. This supports the notion of a team approach and prevents an impasse between author and editor where a point in a guideline cannot be agreed on.

A pharmacist is required to review all guidelines that contain advice about doses of medicines to ensure that there are no errors and to ensure concordance with the *British National Formulary for Children*. Likewise, a microbiologist should review the guidelines that contain advice about antimicrobials, and a radiologist should review all guidelines advising radiological investigations.

Producing the completed guidelines requires strong project management skills, together with a keen eye for detail. This requires a guidelines coordinator or developer, who ensures an annual or biannual review of the guidelines. The primary role of the coordinator is to act as a conduit through which the editorial board, authors of the guidelines, and other membership trusts liaise. The coordinator edits, helps to develop and proofreads guidelines and associated documentation in conjunction with the appropriate specialists. Liaising with printers to ensure that guideline books are produced on time, together with the distribution of the finished product in the subscribing trusts, also form part of the coordinator's responsibilities.

In some specialties, it has been possible to provide the guidelines in a format that allows for local changes before printing. This is a powerful way of getting around consensus problems in a non-evidencebased territory. However, the print runs are not usually large enough in paediatrics to make this a practical possibility, but could be applicable if only electronic or ward copies are used. However, local audits have shown a preference for personal "pocket book"-sized copies issued to clinicians and each clinical area. Even personal digital assistant (PDA) versions can take longer to look up guideline information than a printed copy.

It is essential that guidelines are reviewed regularly and kept up to date. The clinical effectiveness librarian can set up systems of notification for new literature on the topics questioned in the guideline. New articles found have to be assessed for their relevance and quality, and if there are noticeable changes, these should be notified to the guideline author or editor. All users should be encouraged to submit, at any time, corrections, new evidence or suggestions for improvement. Unless changes are required because of considerable dangers in continuing with the original guideline, the changes should be made at the time of the next edition. This prevents there being more than one version of the guideline in use. However, it means that the complete set of guidelines must be revised at least biennially to incorporate all the changes required.

GUIDELINES IN PRACTICE

Clinical errors occur when guidelines are not followed, for several reasons. Violations against recommendations may be a conscious failure to consult procedures or regulations, preferring to rely on memory. This is more likely to occur if the guidelines are inaccessible. Inaccessibility can be physical, as when the book or computer terminal is simply not available, or it may be functional, where there is difficulty finding the necessary information quickly. This can apply equally to electronic and printed copies of guidelines. Alternatively, violations can occur because of ambiguity, hence the emphasis on the editorial process. In addition to expert editors, it is useful to have editors whose area of work is not primarily in the area for which the guideline is written so that knowledge is not assumed. These editors often find ambiguities that may cause problems to juniors, but have been missed by authors and specialty editors. Violations can also occur if the guideline recommends a procedure that is complex or can be misinterpreted. The editorial process, with feedback and frequent revision of the guideline, can help to identify these problems and simplify the guideline accordingly.

There can also be disagreement with what is written in the guideline. In some instances, this might be appropriate, given that guidelines should recognise that patients are individuals, possibly with comorbidities or allergies that contraindicate "best" management. Clinicians must be free to adapt the guidelines, which are explicitly advisory, not mandatory. However, such violations would not be expected from inexperienced individuals lacking sound reasons for alternative management decisions. The culture of using guidelines should engender a work practice in which risks are avoided by following recommended practice.

Given the resource implication and the obvious difficulties, is it possible to achieve quality bedside guidelines in practice? The method recommended in this paper has been used with considerable success by Pantin et al.7 Over 13 years, their adult medicine guidelines have been published annually and are now used by 15 hospitals. They also now publish separate guidelines for general surgery, nursing, paediatrics and neonatology. Partners in Paediatrics (http:// www.partnersinpaediatrics.org.uk/) and Staffordshire Shropshire and Black Country Neonatal Networks (www. newbornnetworks.org.uk/staffs) have worked closely with the Bedside Management Group to provide paediatric and neonatal guidelines.

After the immense effort of developing guidelines, it is important to know whether the guidelines are actually used. The adult experience suggests that they are, although it takes time for the culture to change. Pantin et al have conducted 35 audits since 1996: 19 directly reviewed management, 3 reviewed drug administration and 10 reviewed patient care pathways. They have shown some areas of good compliance and other areas that need to be included in the guidelines. The guidelines have been requested by other trusts after junior doctors have been seen appropriately to use their copies from previous posts. Feedback from surveys of staff has helped to develop the guidelines further. The paediatric guidelines are much earlier in the developmental cycle and represent work in progress. Commissioners have requested use of these guidelines as a clinical governance standard.

Writing guidelines is not without risk. The greatest risk is that they may lead to an inappropriate action that may be caused by:

- an error in the guideline
- misinterpretation of a guideline
- the use of a guideline that is inappropriate for an individual situation.8

In a legal case of malpractice, where a guideline has been used out of context, the responsibility of clinical practice remains with the clinician.9

CONCLUSION

It is our belief, on the basis of experience, that good-quality guidelines have huge potential to improve care, especially in these days of shifts, with multiple doctors involved in the care of individual patients. However, the development of guidelines requires dedicated resources and a welldefined process. It is best undertaken across a network of cooperating providers. Audit, regular review and updating are essential components of the process.

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IMAGES IN PAEDIATRICS

Once bitten, twice shy! A mother's reluctance to put BLS training into use ever again

2-year-old child became cyanosed and apnoeic while having a febrile convulsion. The child's mother, who had previously undertaken Basic Life Support (BLS) training, noticed the bluish discolouration of the child's lips. She was concerned that this had occurred as a result of choking, and attempted to manually pull the tongue forward, sustaining the bite injury as shown in fig 1.

BLS training is given to parents of every child who has undergone a febrile convulsion, and this training is often delivered by junior paediatric staff.¹ It is important to emphasise the ABC approach of BLS training; the first step towards airway opening in the child who is having a fit is to place the child in the recovery position, thereby allowing the tongue to naturally come forwards.² Fingers should not be placed blindly in the mouth in any resuscitation scenario.3 In the choking child, objects may be introduced deeper into the oropharynx. In the child having a fit, the tone is markedly increased in the muscles of mastication during the ictal period and injury may be sustained, as seen in this patient.

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Figure 1 Finger with bite injury.

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recommendations. Resuscitation 1999;41:3-18. Norton C, Wright S. What new parents need to 3 know about CPR. RN 1987;50:41-3.